EPTZ3602/3602i Speed Dome

36x, 960H, IP66, ICR, DNR, WDR, Fan & Heater

User's Manual

EverFocus®

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About this document

All the safety and operating instructions should be read and followed before the unit is operated. This manual should be retained for future reference. The information in this manual was current when published. The manufacturer reserves the right to revise and improve its products. All specifications are therefore subject to change without notice.

Regulatory Notices

FCC Notice "Declaration of Conformity Information"

This equipment has been tested and found to comply with the limits for a Class

A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning: Changes or modifications made to this equipment, not expressly approved by EverFocus or parties authorized by EverFocus could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

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EPTZ cameras comply with CE and FCC.

Precautions

1. **Do not install the camera near electric or magnetic fields.**
   Install the camera away from TV/radio transmitters, magnets, electric motors, transformers and audio speakers since the electromagnetic fields generated from these devices may distort the video image or otherwise interfere with camera operation.
2. **Never disassemble the camera beyond the recommendations in this manual nor introduce materials other than those recommended herein.**
   Improper disassembly or introduction of corrosive materials may result in equipment failure or other damage.
3. **Try to avoid facing the camera toward the sun.**
   In some circumstances, direct sunlight may cause permanent damage to the sensor and/or internal circuits, as well as creating unbalanced illumination beyond the capability of the camera to compensate.
4. **Keep the power cord away from water and other liquids and never touch the power cord with wet hands.**
   Touching a wet power cord with your hands or touching the power cord with wet hands may result in electric shock.
5. **Never install the camera in areas exposed to oil, gas or solvents.**
   Oil, gas or solvents may result in equipment failure, electric shock or, in extreme cases, fire.
6. **Cleaning**
   For cameras with interchangeable lenses, do not touch the surface of the sensor directly with the hands. Use lens tissue or a cotton tipped applicator and ethanol to clean the sensor and the camera lens. Use a damp soft cloth to remove any dirt from the camera body. Please do not use complex solvents, corrosive or abrasive agents for cleaning of any part of the camera.
7. **Do not operate the camera beyond the specified temperature, humidity or power source ratings.**
   Use the outdoor camera at temperatures within -40°C ~ +50°C ≦ 95% / -40°F ~ +122°F ≦ 95% and the indoor camera at temperatures within -10°C ~ +50°C ≦ 85% / 14°F ~ +122°F ≦ 85%; this device is not rated as submersible. The input power source is 24 VAC~. Be sure to connect the proper + / - polarity and voltage, as incorrect polarity or too high a voltage will likely cause the camera to fail, and such damage is not covered by the warranty. The use of properly fused or Class 2 power limited type supplies is highly recommended.
8. **Mounting**
   Use care in selecting a solid mounting surface which will support the weight of the camera plus any wind, snow, ice or other loading, and securely attach the camera to the mounting surface using screws and anchors which will properly support the camera. If necessary (e.g. when mounting to drop ceilings) use a safety wire to provide additional support for the camera.

Contents

1. Introduction 1

2. Features 2

3. Installation 2

3.1 Packing List 2
3.2 Optional Accessories 3
3.3 Cable Descriptions 4
3.4 I/O Terminal Block 5
3.5 Basic Installation for Outdoor Models 6
3.5.1 Installation Requirements 6
3.5.2 Important Note for Installation 7
3.5.2.1 Replacing the Desiccant Bags 7
3.5.3 Initial Setup 8
3.5.4 Wall-Mount Installation 12
3.5.5 Ceiling Mount Installation 15
3.5.6 EKB500 Connection 19

4. Configuration in the OSD Menu 21

4.1 Video Settings 21
4.2 Positions 24
4.3 OSD/Areas 26
4.4 Auto Modes 30
4.5 Alarm 35
4.6 Private Zones (Optional) 39
4.7 System 40
4.8 Info 41
4.9 Exit 41

5. Specifications 42

Appendix 44

A.Setting-up and Operating EPTZ Camera Function Using EKB500 44

1. Introduction

The EPTZ3602 series is a high-performance speed dome with a built-in 36x 960H optical zoom lens, supporting up to 700 TVL. The series comes in two types: outdoor (EPTZ3602) and indoor (EPTZ3602i). Equipped with a weather-resistant (IP66) housing, the outdoor models meet a wide variety of needs for outdoor surveillance.

EverFocus speed dome provides variable pan/tilt speeds ranging from 360° per second to 0.01° per second with 0.1° position accuracy for fast and accurate monitoring. A maximum of 192 preset points can be configured for precise location of target areas. Features like 360° endless rotation, 16 tour sequences, 4 patterns are all provided. The speed dome also features IR Cut Filter, which can be removed or attached manually or automatically switched based on the detected light levels.

Outdoor (EPTZ3602) | Indoor (EPTZ3602i)

Item Name

No.	Item Name	No.	Item Name	No.	Item Name
1	Top Housing	2	Outer Housing	3	Camera Main Body

2. Features

- Built-in 36X 960H Optical Zoom Lens
- True Day and Night function (IR Cut Filter Removable)
- Digital Slow Shutter
- Built-in Dynamic Noise Reduction (DNR)
- Privacy Zone Masking (optional)
- Auto Detection of Protocols
- Tilt rotation range -90°
- 192 preset positions are available
- 16 cruise tours can be set, and each tour contains up to 16 positions
- 4 Alarm Inputs & 2 Alarm Outputs
- Running to positon speed, 0.01°/s to 360°/s
- RS-485 Communication
- IP 66 (for EPTZ3602)

3. Installation

3.1 Packing List

There are 3 boxes that are camera main body with a camera module, top housing with a base board & pin connector and outer housing with bubble, plus one tool packet in the package. The detail accessories are listed below:

Standard

1. Camera Main Body x 1
2. Top Housing x1
3. Outer Housing with Bubble x1
4. Tool Packet
   - Hexagon Wrench x1
   - Glove x 1 Pair
   - RS-485 Terminal Block
   - Desiccant Packs x 3

Note:

1. Equipment configurations and supplied accessories vary by country. Please consult your local EverFocus office or agents for more information. Please also keep the shipping carton for possible future use.
2. Contact the shipper if any items appear to have been damaged in the shipping process.

3.2 Optional Accessories

- **EPTZ- PBOX (External power connection box)**

- **Corner mount adapter**
  (Used for fixing a wall-mount bracket to a 90° wall corner, indoors or outdoors.)

- **Pole mount adapter**
  (Used for installing a wall-mount bracket to a pole, indoors or outdoors.)

- **Indoor ceiling pendant mount bracket**
  (Used for installing a speed dome against a ceiling.)

- **Outdoor sunshield**

- **Indoor recessed mount bracket**

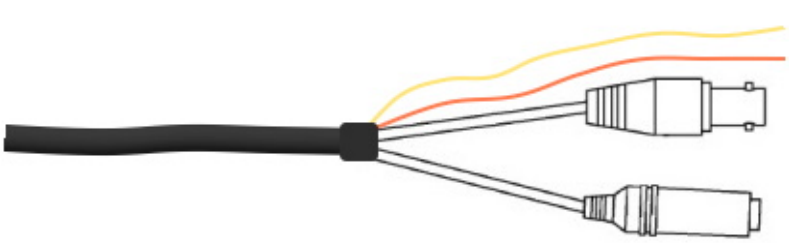
- **Wall mount bracket**

- **Indoor concrete ceiling mount adapter**
  (Used for attaching a speed dome to a concrete ceiling.)

- **EKB500 (RS-485 Keyboard)**

- **EKB200 (USB controller keyboard)**

3.3 Cable Descriptions



Power Cable

An adapter with 24 VAC / 3.5A output provides the power to the EPTZ3602/EPTZ3602i. An extension power line may be needed.

Note: Different regions may use different ranges for AC voltage. Be sure to check the voltage range in your area before installing.

Video Cable

A BNC cable is used for connecting an EPTZ3602/EPTZ3602i to a DVR or a monitor. An amplifier may be needed depending on the distance.

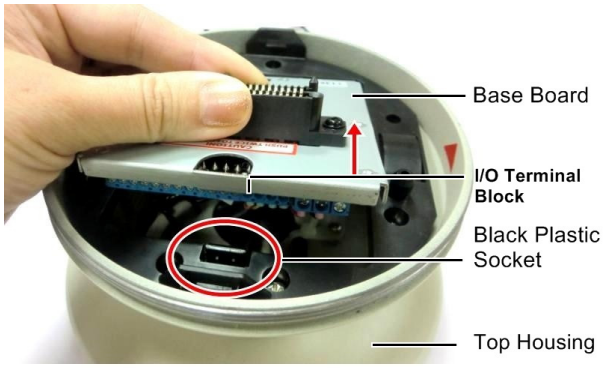
RS-485 Cable

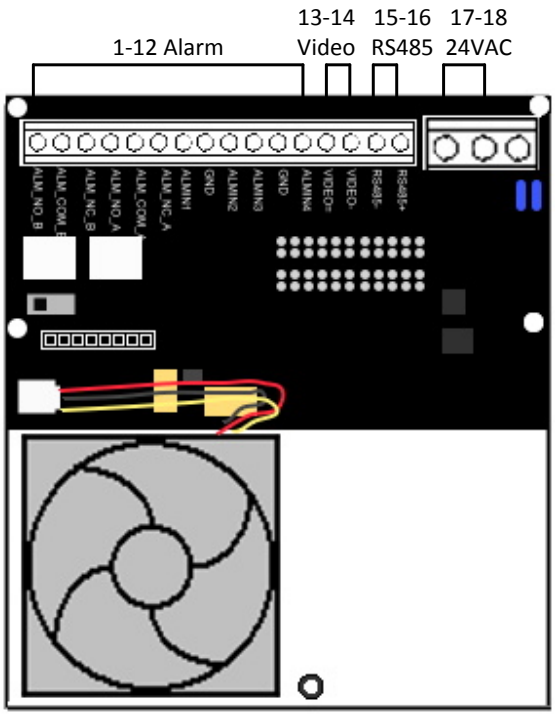
The yellow wire carries RS-485+, and the orange wire carries RS-485-. Connect these wires to the EKB500 or other control device in order to control the PTZ camera.

3.4 I/O Terminal Block

The base board that is inside the top housing connects to power cable, video cable, control cable, alarm cable and fan. The housing must be removed in order to properly connect the cables. The connectors of cable names are marked on the board in white text.

There are 4 alarm inputs and 2 alarm outputs available, represented by Pin 1~12. Pin 13 and 14 are video pins for connecting to video cable. Pin15~16 are RS-485 pin for connecting to keyboard. Pin 17 and 18 are power pin for connecting to 24 VAC power.





EPTZ3602/3602i Base Board

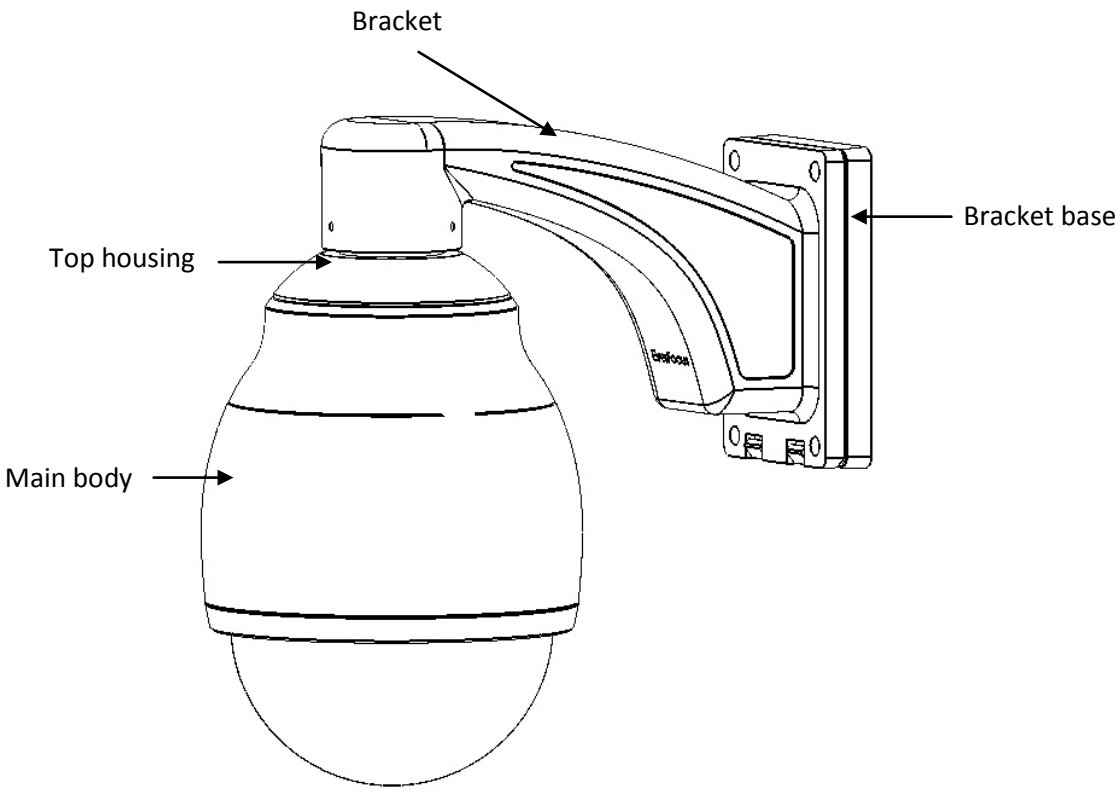
Pin	Function	Pin	Function
1	ALM_NO_B (Alarm Output Normal Open B)	10	ALMIN3 (Alarm Input 3)
2	ALM_COM_B (Alarm Output Common B)	11	GND (Ground)
3	ALM_NC_B (Alarm Output Normal Close B)	12	ALMIN4 (Alarm Input 4)
4	ALM_NO_A (Alarm Output Normal Open A)	13	VIDEO+
5	ALM_COM_A (Alarm Output Common A)	14	VIDEO-
6	ALM_NC_A (Alarm Output Normal Close A)	15	RS485-
7	ALMIN1 (Alarm Input 1)	16	RS485+
8	GND (Ground)	17	AC24A+
9	ALMIN2 (Alarm Input 2)	18	AC24B-

3.5 Basic Installation for Outdoor Models

There are two ways to install the outdoor models of EPTZ series Speed Dome: **Wall Mount** and **Ceiling Mount**.

3.5.1 Installation Requirements

- The installation should be handled by a qualified service agent and should be complied with all local regulations. Service personnel should check potential problem such as surfaces strength, surface materials, falling objects, outer breaches, building vibration and other similar conditions.
- Check for all necessary materials, and ensure that the selected installation location is suitable for the camera.
- Installations on a wall, pole, or ceiling must be able to support at least five times the weight of the full camera assembly (about 16kg).

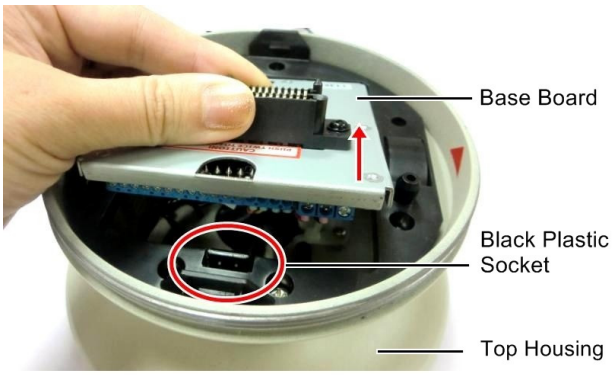


3.5.2 Important Note for Installation

Before installing, replace the 3 desiccant bags inside the top housing. The desiccant bag loses its effectiveness after you open the camera. To keep the camera's interior dry, it is highly recommended to replace the desiccant bags every time when you open the camera.

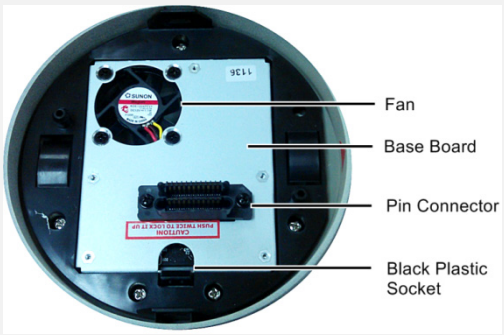
3.5.2.1 Replacing the Desiccant Bags

1. On the Top Housing, slightly press the black plastic socket backward and lift up the base board.



2. Remove the desiccant bags from the top housing.
3. Stick the supplied 3 new desiccant bags inside the top housing.

Note: Ensure **Not** to place the desiccant bags under the position of the fan.



4. Insert the base board into the black plastic socket. The base board should click firmly into position. Make sure the pin connector on the base board is lined up with the pin connector on the main body when you press the two together.

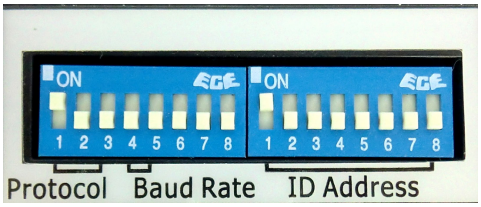
3.5.3 Initial Setup

To allow the control device, such as a keyboard, to recognize and then control multiple cameras, you need to set up the ID address for the cameras using the DIP switch on the Camera Main Body. You can also set up the Protocol and Baud Rate for the cameras.

Note: Please ensure to turn off the power when setting up the DIP Switch. The new values will only take effect after restarting the camera.

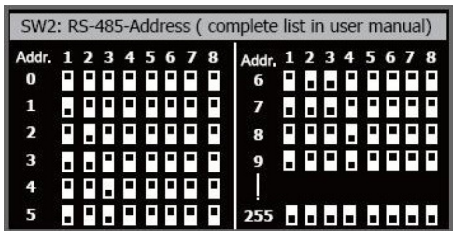
Camera Main Body

DIP Switch

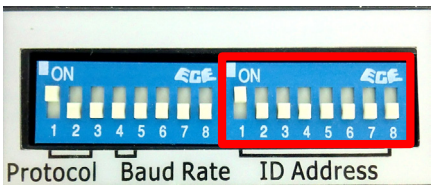


ID Address

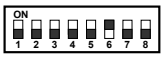
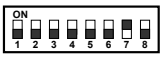
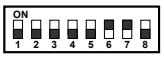
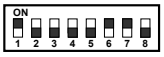
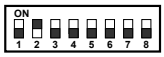
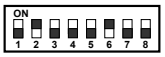
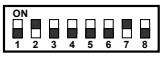
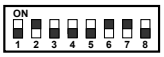
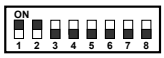
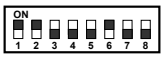
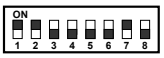
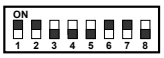
The ID address of the camera should be set to correspond properly with the control device, such as a keyboard. The eight switches on the right correspond with the binary code of the ID address, allowing up to 256 ID addresses (0 ~ 255) to be set up. Please refer to the sticker on the camera main body or the following diagram for setting up the ID address. The default ID address is 1.



Sticker on the Camera Main Body



DIP Switch

Switch	Address	Switch	Address	Switch	Address	Switch	Address
	0		32		64		96
	1		33		65		97
	2		34		66		98
	3		35		67		99
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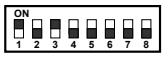
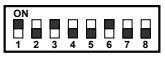
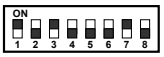
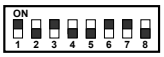
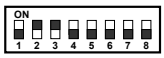
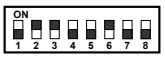
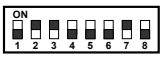
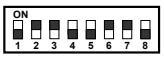
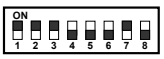
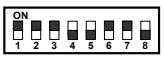
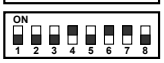
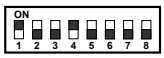
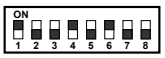
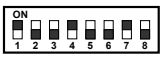
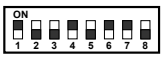
	5		37		69		101
	6		38		70		102
	7		39		71		103
	8		40		72		104
	9		41		73		105
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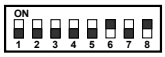
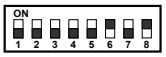
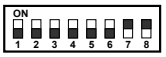
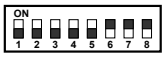
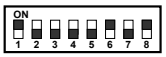
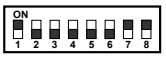
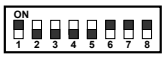
Switch	Address	Switch	Address	Switch	Address	Switch	Address
	128		160		192		224
	129		161		193		225
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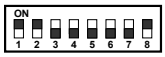
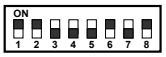
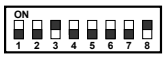
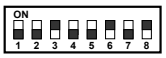
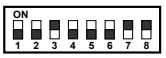
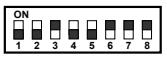
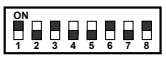
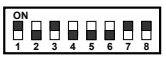
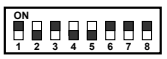
	131		163		195		227
	132		164		196		228
	133		165		197		229
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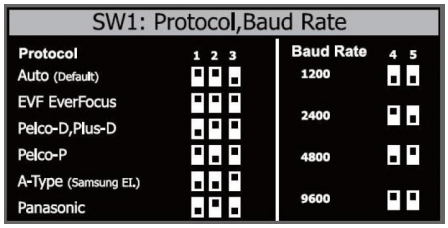
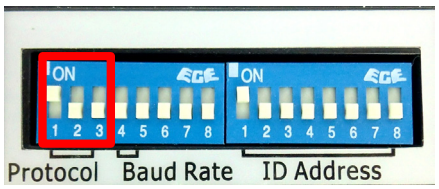
	158		190		222		254
	159		191		223		255

Protocol

The first, second and the third switches on the left are used to set the communication protocol. Please refer to the sticker on the camera main body for setting up the protocol. The supported protocols are listed on the sticker. The default protocol is EVF.



Sticker on the Camera Main Body

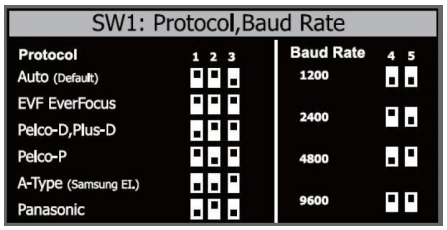


DIP Switch

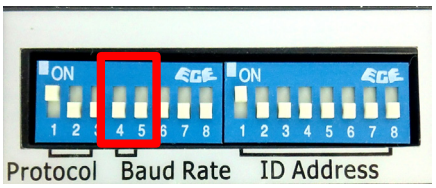
Note: If you switch the three protocol switches to **ON**, the camera will enter a self-test mode.

Baud Rate

The fourth and fifth switches on the left are used to set the baud rate (transmission speed). Please refer to the sticker on the camera main body for setting up the baud rate. The default baud rate is 9600.



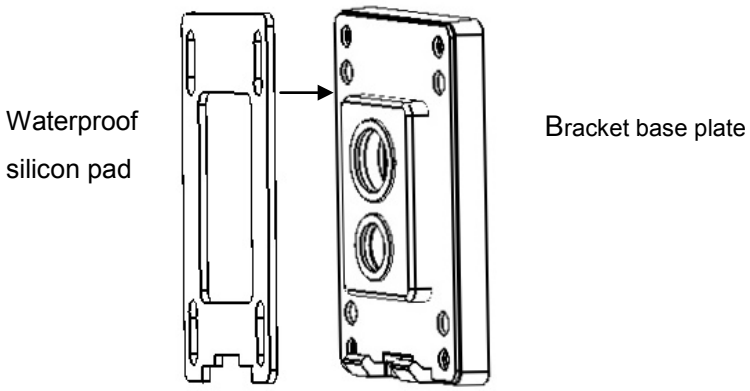
Sticker on the Camera Main Body



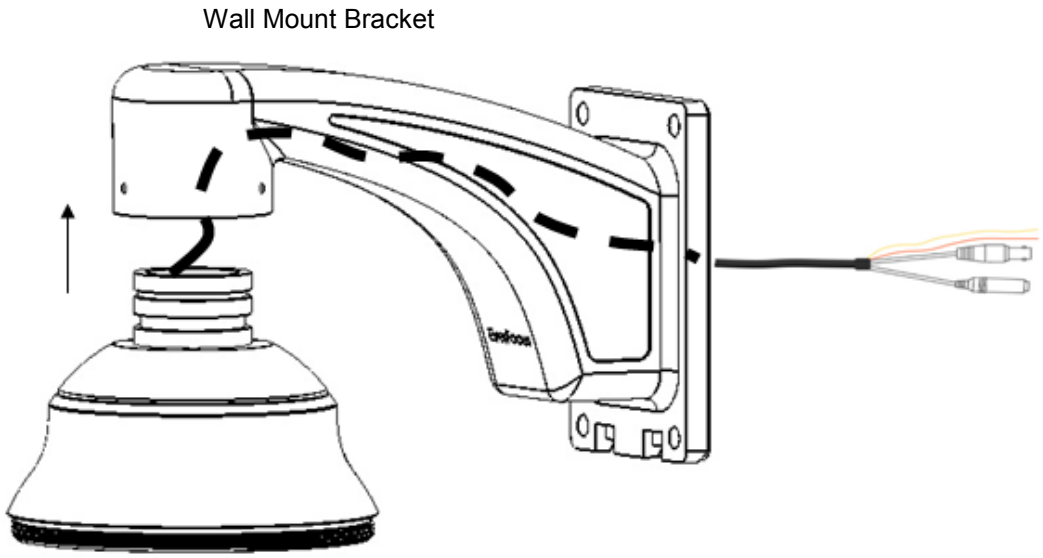
DIP Switch

3.5.4 Wall-Mount Installation

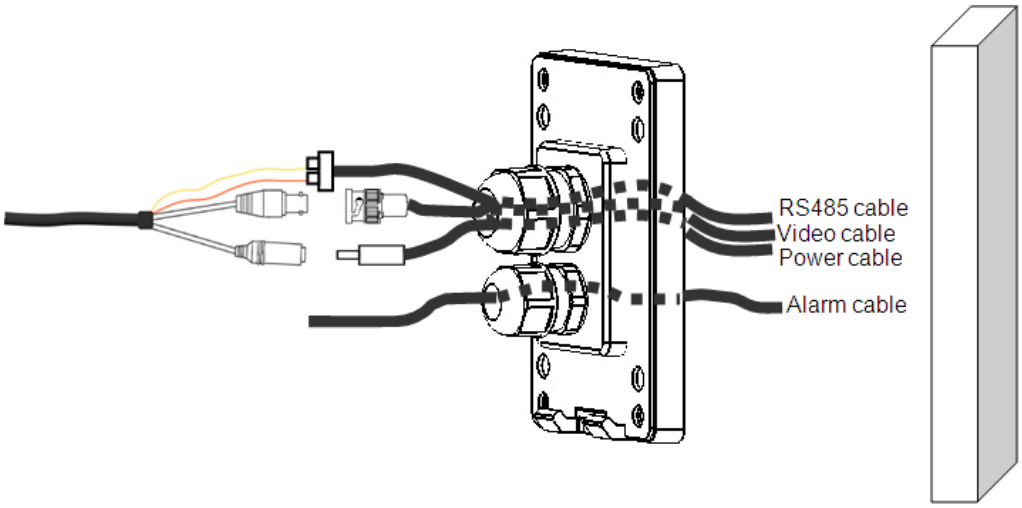
1. Drill 4 screw-depth holes for mounting the bracket base plate and then drill a through-wall hole for inserting the camera cables. You can optionally drill a second through-wall hole to separate cable feeding (see **Step 3**).
2. Attach the waterproof silicon pad to the bracket base plate for waterproofing.



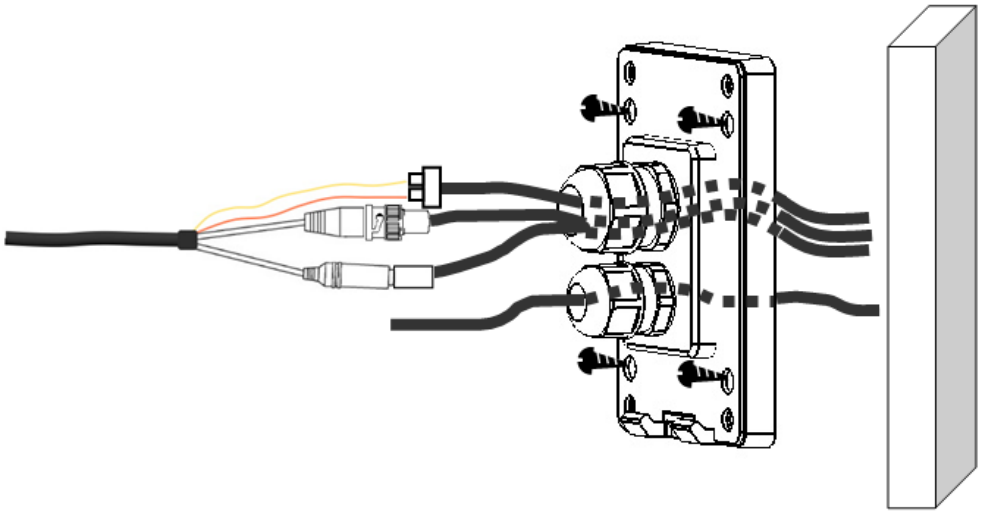
3. Feed the camera's cables through the conduit in the wall mount bracket.



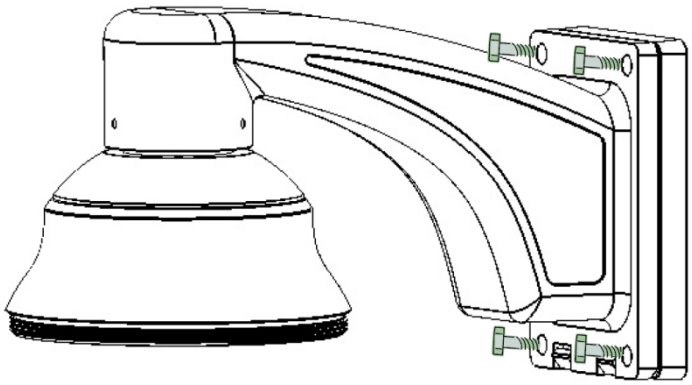
4. Connect the RS-485, video and power cables through the top hole of the base board. If necessary, connect the alarm cable as well using the bottom hole.



5. Screw the bracket base to the wall using the 4 screws.

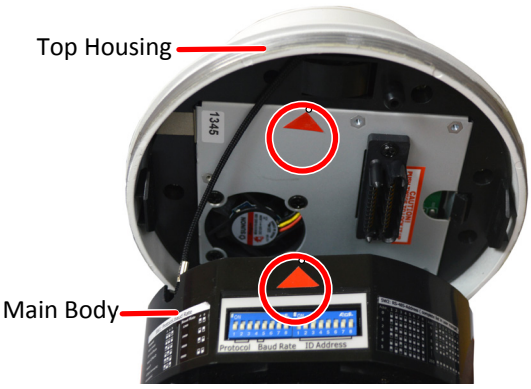


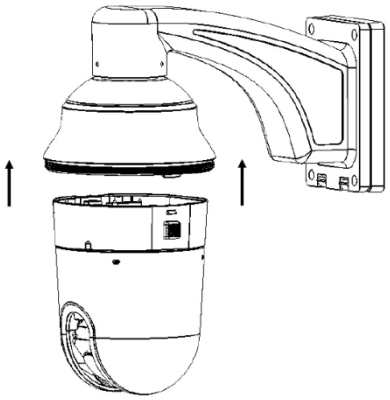
6. Screw the wall mount bracket to the bracket base using the 4 long screws.



7. Put on the supplied gloves before pushing upward the main body into the top housing. Draw out the provided rope from the housing and hook it on the rope attachment hook of the main body.

8. Make sure the red triangle ▲ on the inside of the top housing lines up with the red triangle on the outside of the main body. Push the main body upward into the top housing until the orange catches on both sides click into position.



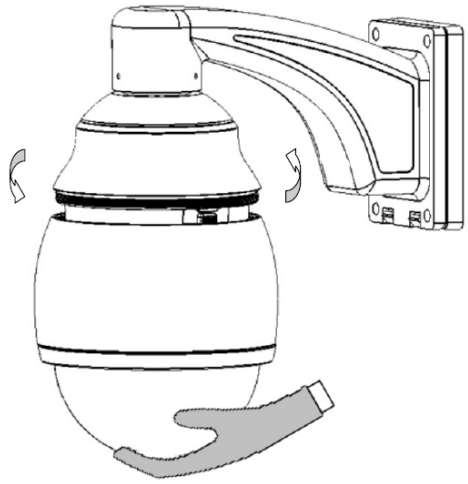


Note:

1. To release the main body, press the two orange release buttons on both sides. Make sure you are holding the main body firmly, otherwise it will fall down.

2. To protect the glass dome from getting dirty and scraped up, please put on the supplied gloves before installing.

9. Screw the housing cover to the top housing slowly by twisting it clockwise.

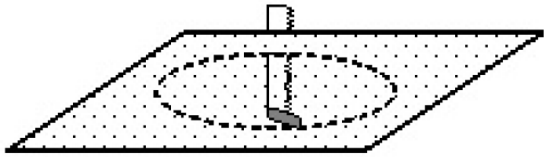


Note: When you turn on the power, the camera will enter self-inspection mode and run a self-testing program. Once this is complete, you will be able to operate it via any IP network.

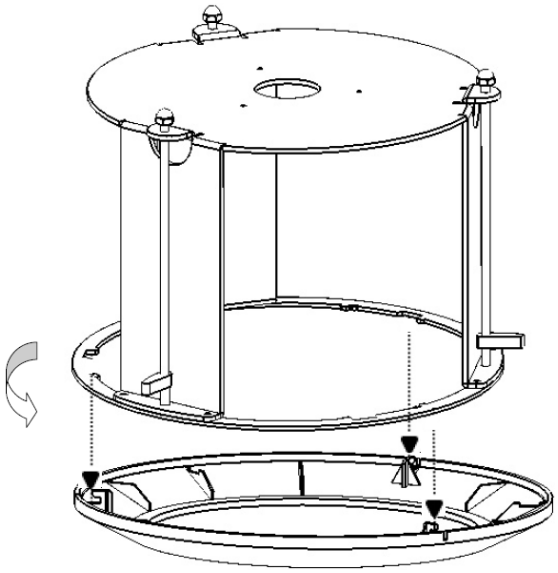
3.5.5 Ceiling Mount Installation

It is required to use the optional Indoor Recessed Mount Bracket and Surface Ring to attach the camera to the ceiling for supporting the camera's weight. Make sure the ceiling is strong enough to easily support the weight of the bracket and the camera.

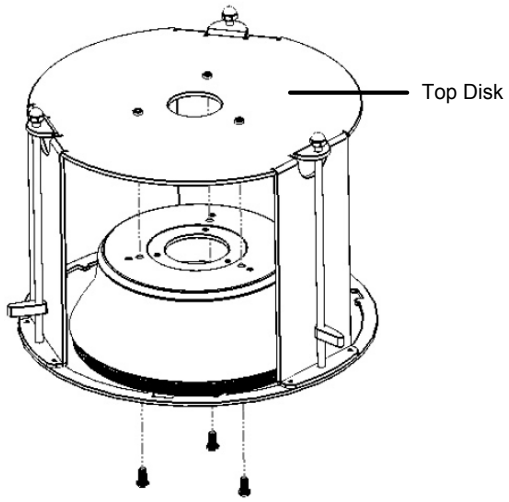
1. Replace the desiccant bags inside the top housing. See *3.5.2.1 Replacing the Desiccant Bags.*
2. Cut a hole on the ceiling using the supplied template.



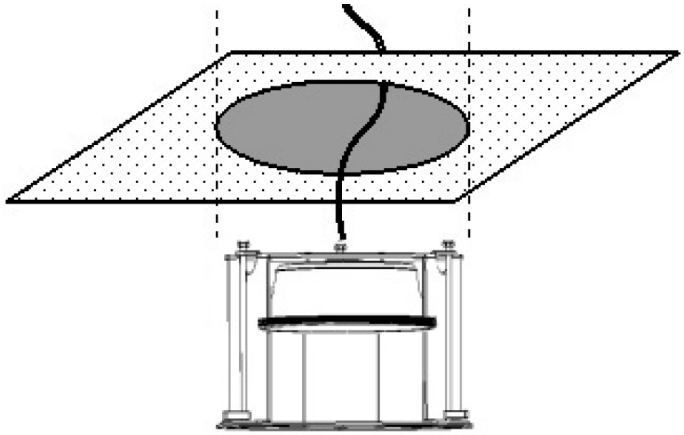
3. Slightly turn the surface ring and remove it from the indoor recessed mount bracket.



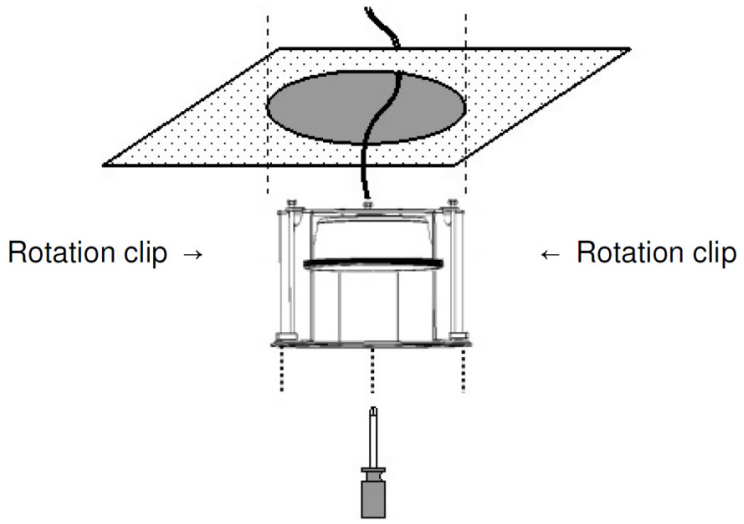
4. Place and then screw the camera's top housing on the top disk of the indoor recessed mount bracket by using the 3 short screws.



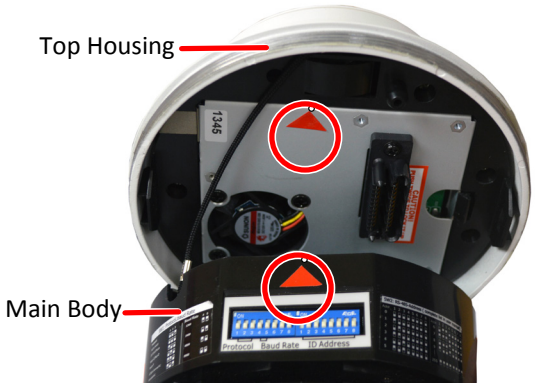
5. Use a cable or other mechanism to hang the indoor recessed mount bracket on the ceiling.

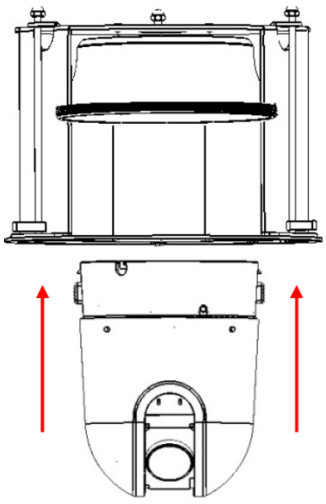


6. Screw the 3 rotation clips of the indoor recessed mount bracket on the ceiling using a screwdriver.



7. Put on the supplied gloves before pushing upward the main body into the top housing. Draw out the provided rope from the housing and hook it on the rope attachment hook of the main body.
8. Make sure the red triangle ▲ on the inside of the top housing lines up with the red triangle on the outside of the main body. Push the main body upward into the top housing until the orange catches on both sides click into position.



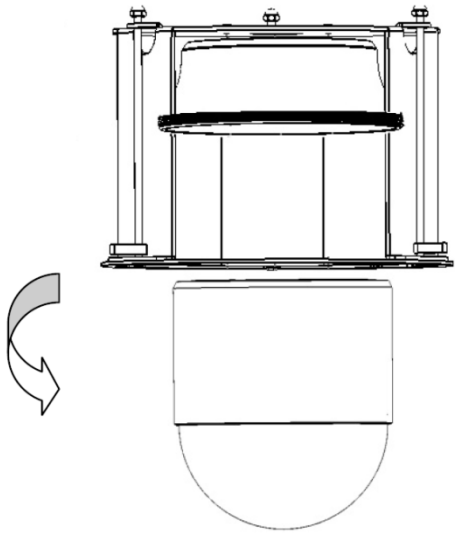


Note:

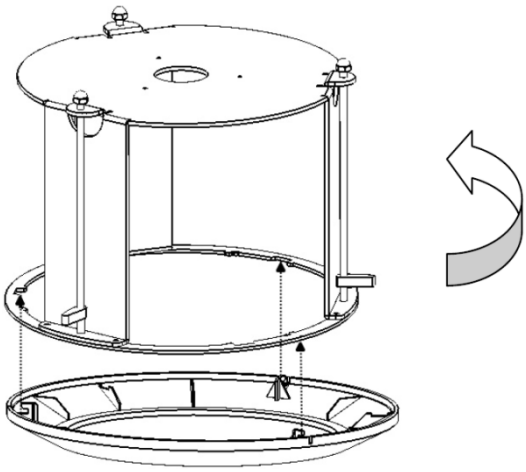
1. To release the main body, press the two orange release buttons on both sides. Make sure you are holding the main body firmly, otherwise it will fall down.

2. To protect the glass dome from getting dirty and scraped up, please put on the supplied gloves before installing.

9. Screw the housing cover to the top housing slowly by twisting it clockwise.



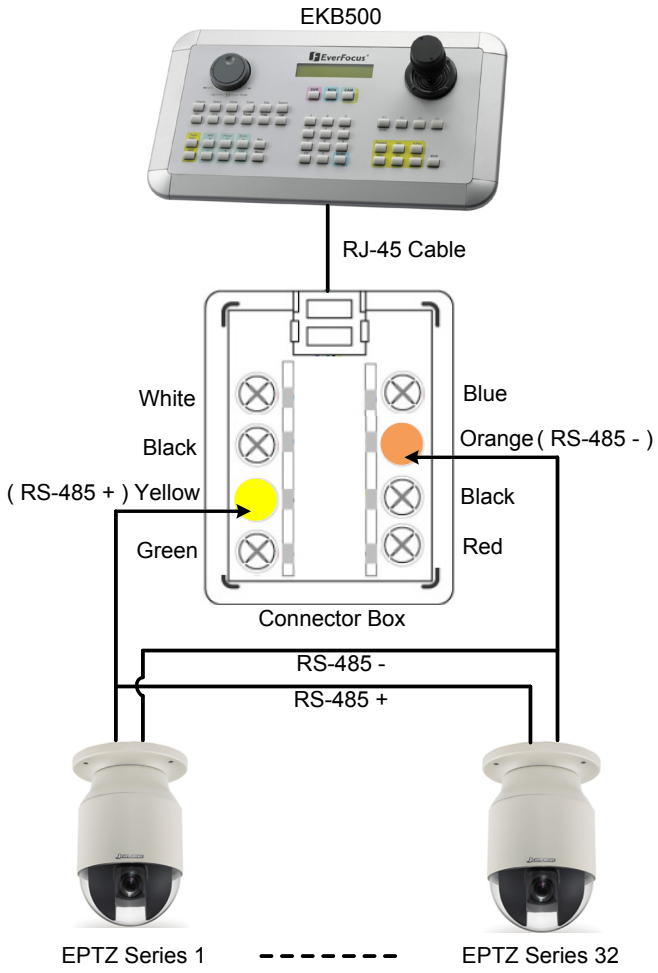
10. Slide the surface ring to the fillister and slightly turn it until it is firmly fixed.



Note: When you turn on the power, the camera will enter self-inspection mode and run a self-testing program. Once this is complete, you will be able to operate it via any IP network.

3.5.6 EKB500 Connection

You can use EKB500 Keyboard to control the EPTZ cameras including the OSD menu setup or PTZ control. Follow the steps below to connect the EKB500 Keyboard to the EPTZ camera.



1. Connect the EPTZ cameras to the EKB500 using the RS-485 wires.
2. Connect a monitor to the video cable of the EPTZ camera.
3. Connect the power to the EKB500 (12 VDC) and EPTZ camera (24 VAC).

After complete the above connection, you can start operating the EPTZ camera with EKB500 Keyboard:

1. Move the Joystick up/down/left/right to shift the camera view in that direction.
2. Twist the top of the Joystick to zoom in/out.
3. Press the Zoom In/Out, Focus F/N or IRIS +/- to manually operate these functions.
4. To enter the OSD menu of the EPTZ camera, press both of the Menu and CAM keys at the same time.

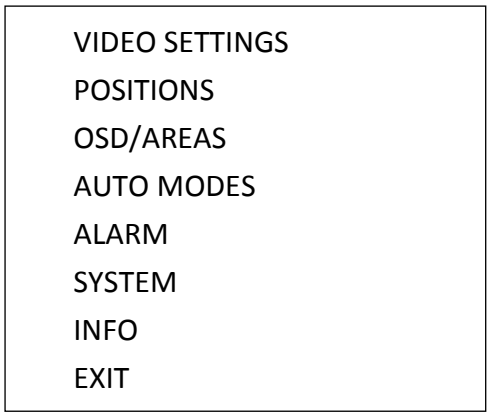
For details on setting up the EPTZ functions using the EKB500 Keyboard, please refer to *A. Setting-up and Operating EPTZ Camera Function Using EKB500* in *Appendix*.

4. Configuration in the OSD Menu

You can use the keyboard to configure camera settings in the OSD menu.

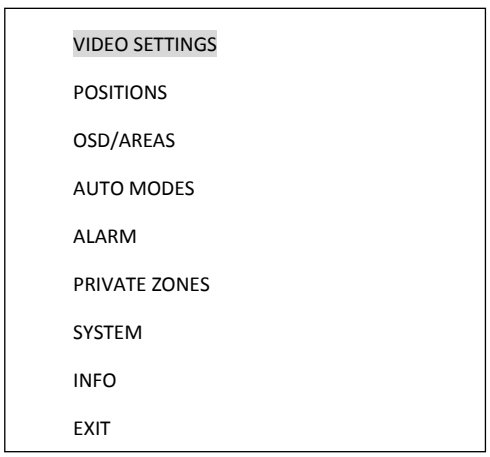
Note: The controls described in this chapter are based on using the EKB500 Keybaord. For EKB500 connection and operation, please refer to *3.5.5 EKB500 Connection*.

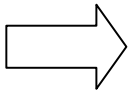
Press the **Menu** and **CAM** keys on the EKB500 Keyboard at the same time to enter the OSD root menu. Move the Joystick left/right to enter the sub-menu.

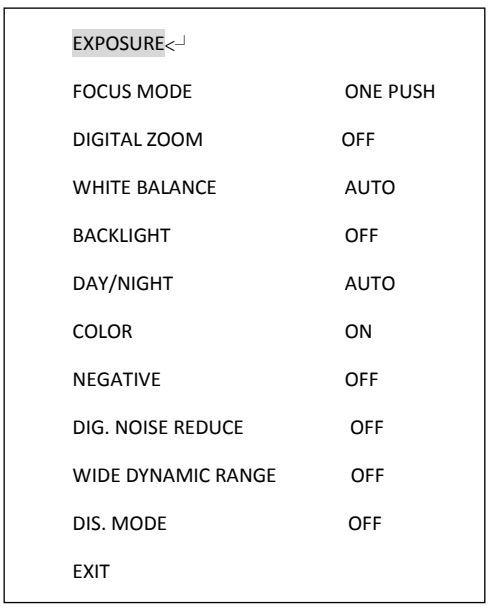


4.1 Video Settings

In main menu, turn joystick Up / Down to select VIDEO SETTINGS. Turn joystick Left / Right to enter VIDEO SETTINGS sub-menu.

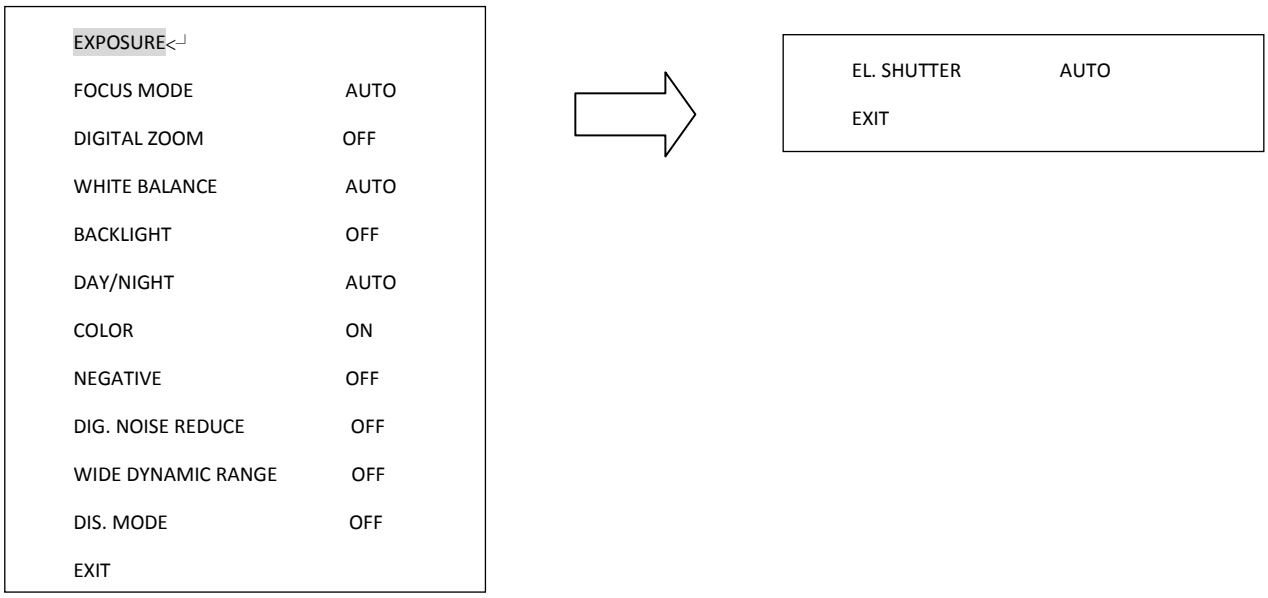






EXPOSURE

In Exposure menu, there is a sub-menu. Press Enter key or turn joystick Left / Right to enter Exposure sub-menu.



- **EL.SHUTTER:** Select electronic shutter mode from the options of the menu. There are AUTO, FLC, 1/250 , 1/500, 1/1000 , 1/2000, 1/4000, 1/10000, 1/30000, 1/60000 and 1/120000.
- **EXIT:** Select Exit to save settings and exit from current page.

FOCUS MODE

In Focus mode, we define focus type from **AUTO**, **Manual** and **One Push**.

- **AUTO:** Auto focus is enabled. It automatically adjusts the focus position to maximize the high frequency content of the picture in a center measurement area, taking into consideration the high luminance and strong contrast components.
- **MANUAL:** Enable the manual focus mode.
- **ONE PUSH:** Press the Enter key to fine-tune the camera focus.

DIGITAL ZOOM

Digital zoom enable or disable.

- **ON:** Enable the digital zoom.
- **OFF:** Disable the digital zoom.

WHITE BALANCE

White Balance has the following modes:

- **AUTO:** this mode computed the white balance value output using color information from the entire screen. It outputs the proper value using the color temperature radiating from a black subject based on a range of value from 3000 to 7500K.
- **INDOOR:** 3200 K Base mode.
- **OUTDOOR:** 5800 K Base mode.
- **ONE PUSH:** Select to force the camera to readjust the white balance. Note that the white balance will be readjusted every time you turn the joystick left/right to select ONE PUSH.
- **ATW:** Select to apply the ATW mode.

BACKLIGHT

This is the function of Back Light Compensation. When the background of subject is too bright, or when the subject is too dark due to shooting in AE mode, back light compensation will make the subject appear clearer.

- **ON:** Enable Back Light Compensation.
- **OFF:** Disable Back Light Compensation.

DAY/NIGHT

In Day/Night, we define the ICR (IR Cut-Removable) mode settings. The camera has a built-in infrared (IR) cut-filter which can be disengaged from the image path for increased sensitivity in low light environments. Select from **AUTO, DAY** and **NIGHT**.

- **NIGHT:** IR cut filter is always removed (ICR ON).
- **DAY:** IR cut filter is always attached (ICR OFF).
- **AUTO:** Auto Day/Night mode switch. The camera will automatically switch the settings needed for attaching or removing the IR cut filter. At a certain level of darkness, the IR cut-filter will be disabled and increase the infrared sensitivity (ICR ON). At a certain level of brightness, the IR cut-filter will reactivate automatically (ICR OFF).

COLOR

In Color, we define color of the image. Select from **ON** and **OFF**.

- **ON:** Color image.
- **OFF:** B/W image.

NEGATIVE

In Negative mode, it will switch ON/OFF the negative art image output. Select from **ON** and **OFF.**

- **ON:** Enable Negative function.
- **OFF:** Disable Negative function.

DIG. NOISE REDUCE

Switch ON/OFF to enable/disable the Digital Noise Reduction function.

- **ON:** Enable Digital Noise Reduction function.
- **OFF:** Disable Digital Noise Reduction function.

WIDE DYNAMIC RANGE

The WDR function provides clearer images when both of the very bright and dark areas simultaneously appear on the camera view.

- **ON:** Enable Wide Dynamic Range function.
- **OFF:** Disable Wide Dynamic Range function.

DIS. MODE

Switch ON/OFF to enable/disable the Digital Image Stabilizer function.

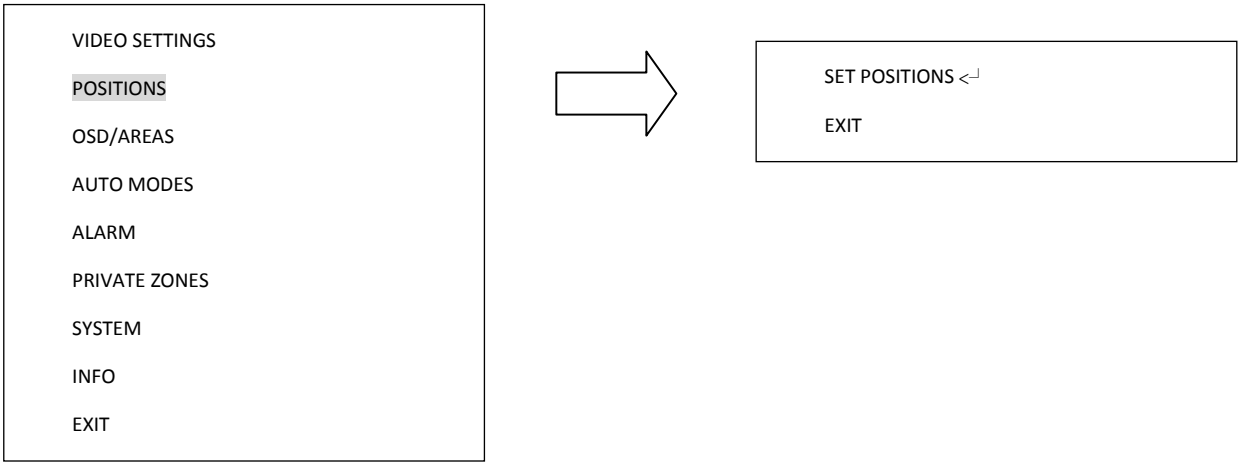
- **ON:** Enable Digital Image Stabilizer function.
- **OFF:** Disable Digital Image Stabilizer function.

EXIT

Select Exit to save settings and exit from current page.

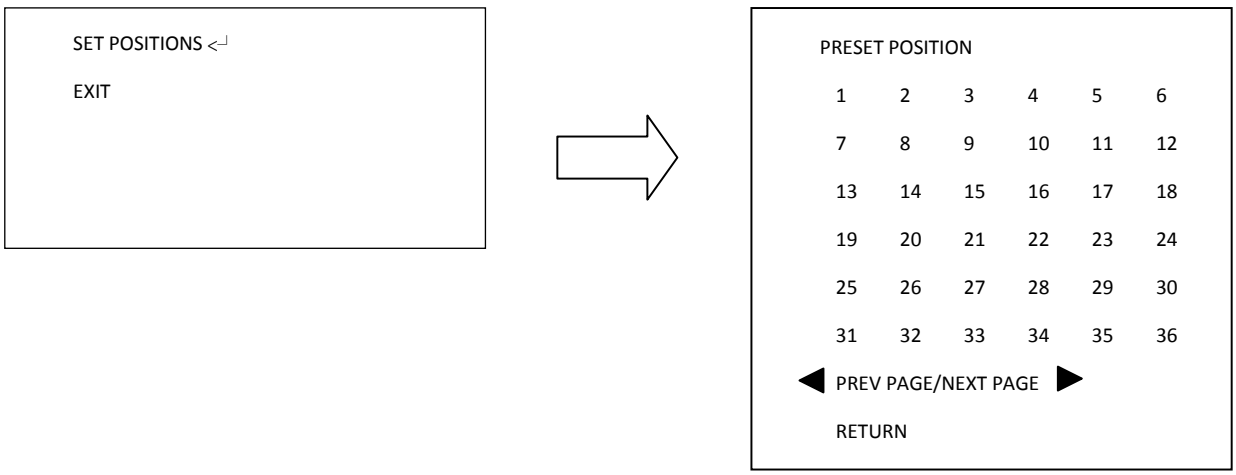
4.2 Positions

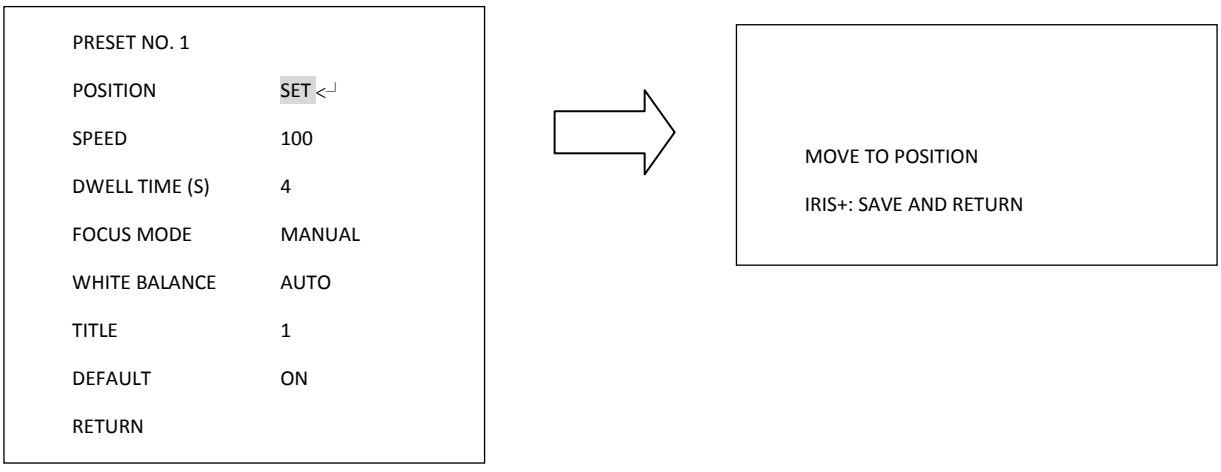
In main menu, turn joystick Up or Down to select POSITION option. Press Enter key or turn joystick Left / Right to enter POSITION sub-menu.



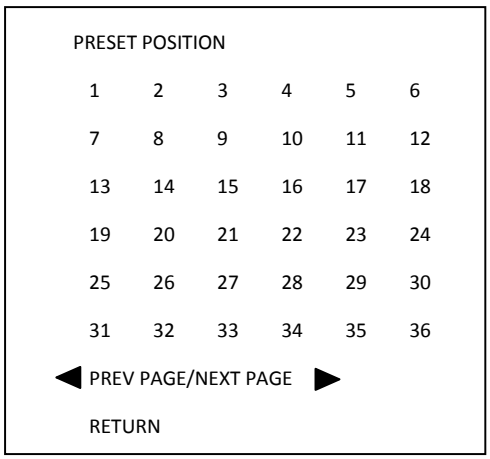
SET POSITIONS

Tilt the joystick left/right to highlight a preset position and press Enter to select it. There are a total of 36 presets per page. Once the position is selected, a star sign (*) will appear next to the number. When finished, go to RETURN and tilt the joystick left/right to go to the Preset options.





- **POSITION:** Select from SET and CLEAR.
  SET: Select SET and press Enter key of keyboard, you will be entered to a sub-menu. Turn the joystick to your desired position. Once the position is confirmed, press IRIS+ key of keyboard to save setting and return to previous menu. If position is set, there will be a star sign (*) beside position number.
  Clear: Select Clear and press Enter key of keyboard, and the POSITION will be cleared. You will automatically go back to the sub-menu of PRESET POSITION.



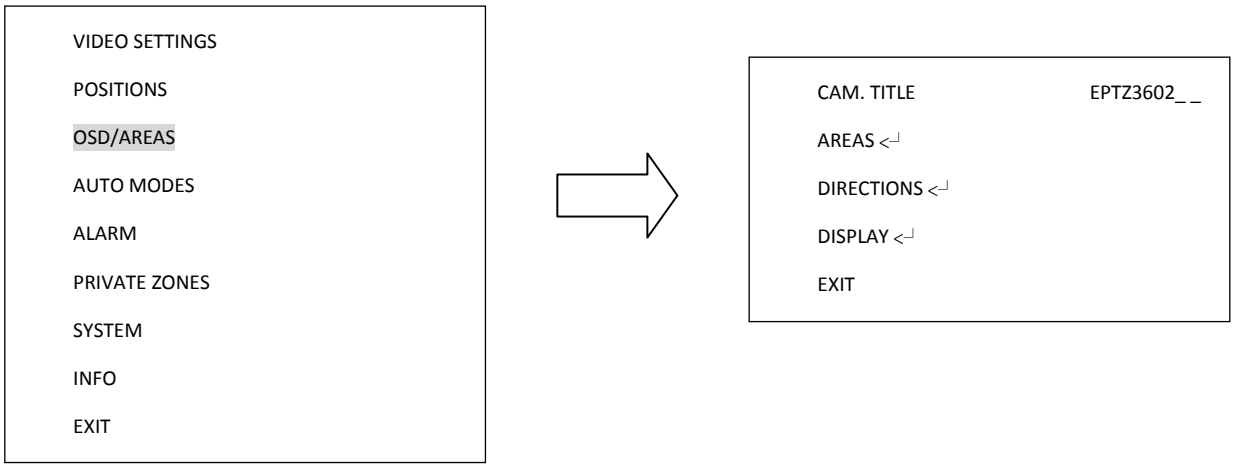
- **SPEED:** Select the speed for the preset position. The value is from 1 to 255 and 255 is the highest speed.
- **DWELL TIME (S):** Select the dwell time (in second) for the preset position from 1 to 99.
- **FOCUS MODE:** Select focus mode for the preset position from MANUAL, ONE PUSH and AUTO.
- **WHITE BALANCE:** Select the white balance for the preset position from Auto, Indoor and outdoor.
- **TITLE:** Enter title name for the preset position. Tilt the joystick up and down to scroll through the characters, then tilt left or right to move to the previous/next position. When finished, move the last digit and tilt the joystick right to return to previous screen.
- **DEFAULT:** Select ON to set the preset position to default value.

EXIT

Select Exit to save settings and exit from current page.

4.3 OSD/Areas

In main menu, turn joystick Up or Down to select OSD/AREAS. Turn joystick Left or Right to enter OSD/AREAS sub-menu.

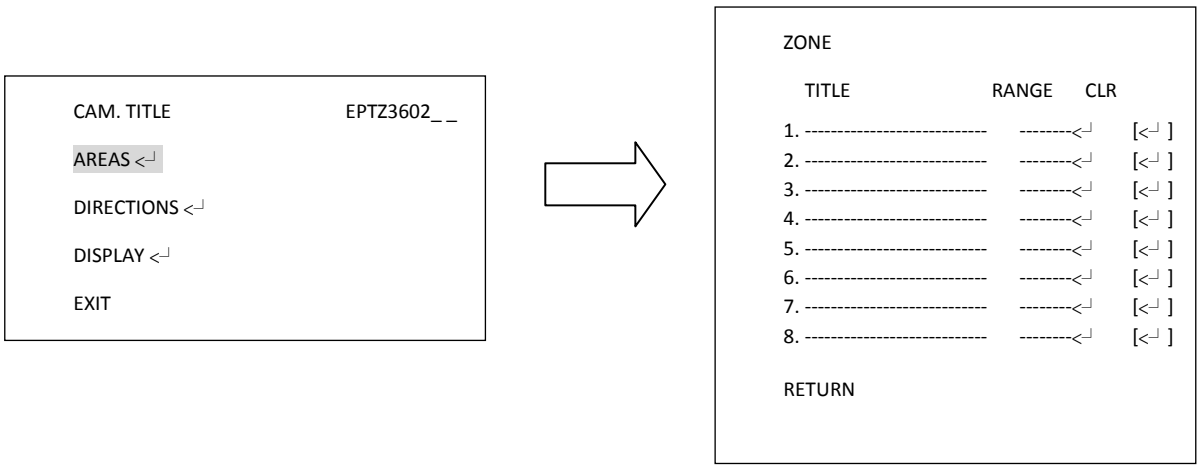


CAM. TITLE

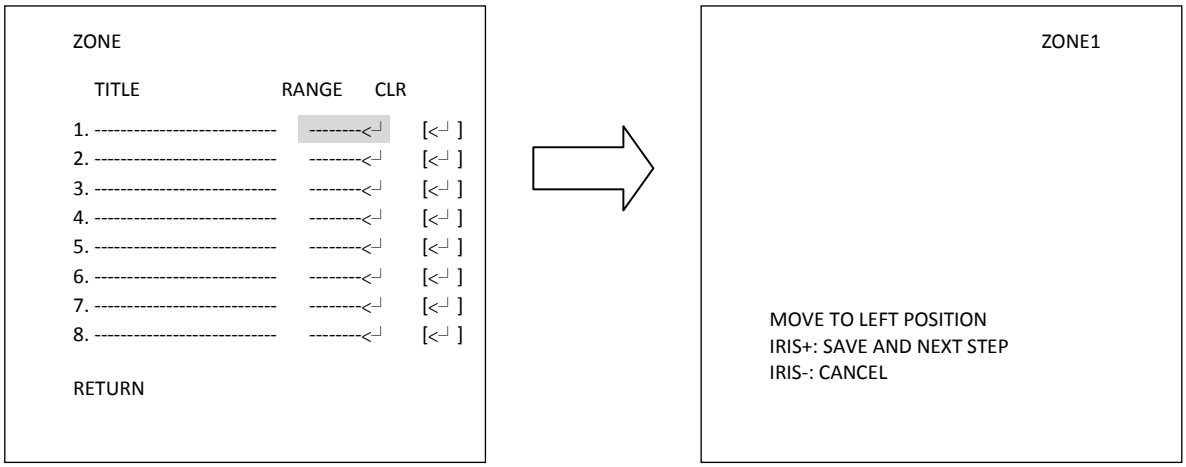
Enter the title name for the camera, up to a maximum of 10 characters. Tilt the joystick up and down to scroll through the characters, then tilt left or right to move to the previous/next position. When finished, move the last digit and tilt the joystick right to return to previous screen.

AREAS

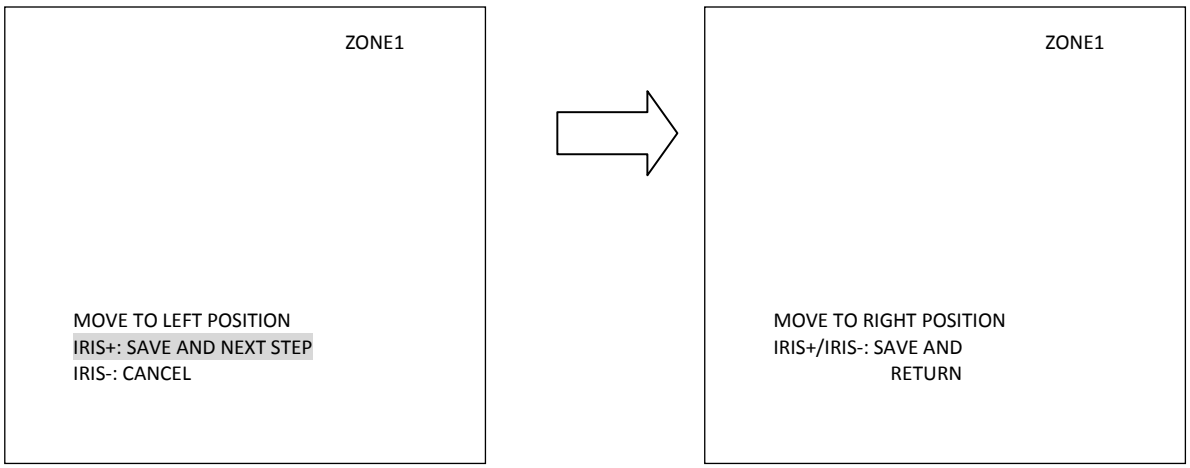
Press Enter key of keyboard or turn joystick Left/Right to enter AREAS sub-menu.



In zone menu, you can set a zone and name it, when the speed dome turns to the zone you set, it will display zone name on the screen (only if “OSD/AREAS->Display -> Zone” is set as “YES”). Tilt the joystick up and down to scroll through the characters, then tilt left or right to move to the previous/next position. When finished, tilt the joystick right to go to "Range" section, and press Enter key to enter Range sub-menu. Use the joystick to move speed dome to its left position. Press IRIS+ key to save left position setting and go to next step or press IRIS- to cancel.



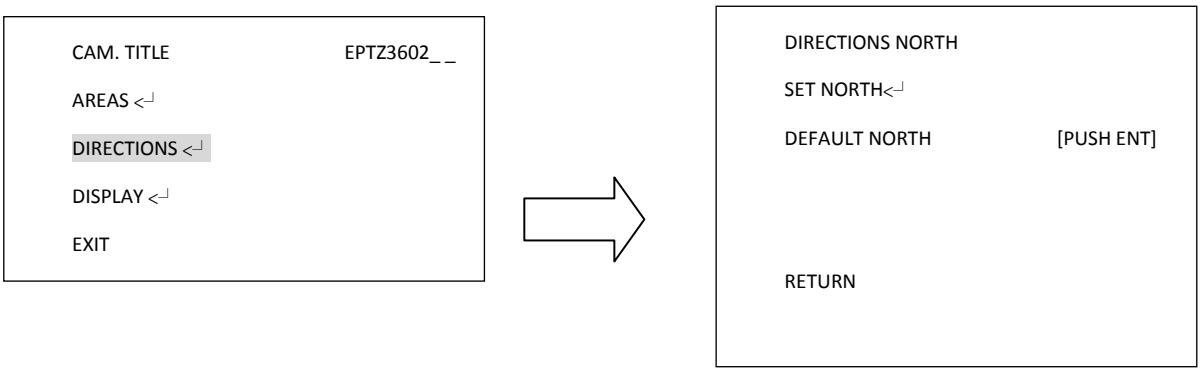
Use the joystick to move speed dome to its right position. Press IRIS+ or IRIS- key to save and return.



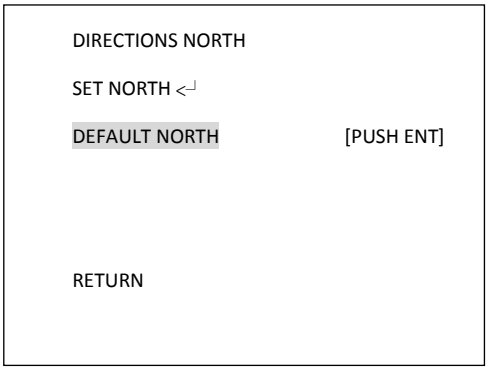
Tilt the joystick right or left to highlight the current zone or tilt up/down to select a different zone. If you wish to clear the zone you have set, go to “CLR” and press Enter key.

DIRECTIONS

Press Enter key of keyboard or turn joystick Left/Right to enter DIRECTIONS sub-menu.



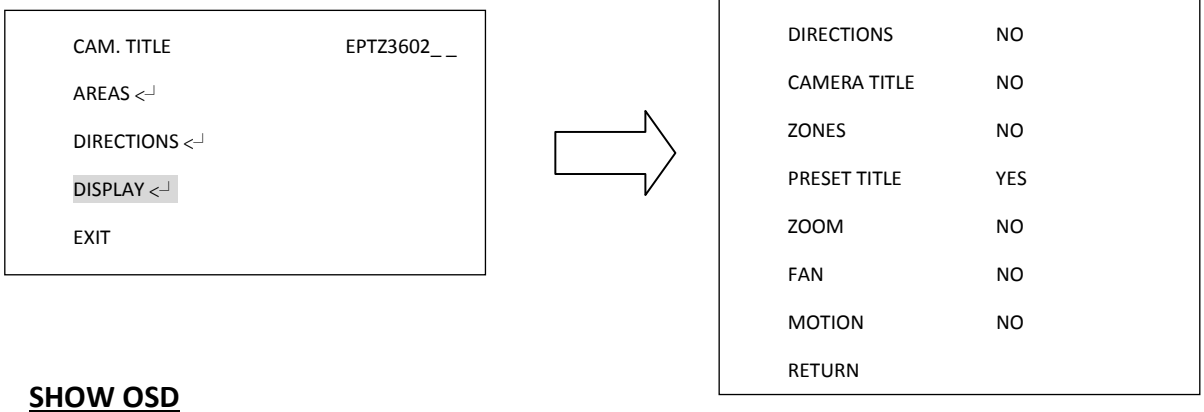
1. Press Enter key of keyboard or turn joystick Left/Right to enter Set North position menu.
2. Move the joystick to North position.
3. Press IRIS+ key of keyboard to save and return.



4. Go to "DEFAULT NORTH" and press Enter key to set the north position as default north position.
5. Go to Return and turn joystick Left/Right to return to previous menu.

DISPLAY

Press Enter key of keyboard or turn joystick Left/Right to enter DISPLAY sub-menu (see diagram 3.14)



- **SHOW OSD**

  ON: Show OSD of Camera Title, Directions, Zones, Preset Title, Motion, Zoom and Fan.

  OFF: Do not show OSD.

  2 SEC: Show OSD for 2 seconds.

  5 SEC: Show OSD for 5 seconds.

  10 SEC: Show OSD for 10 seconds.

- **DIRECTIONS**

  YES: Show directions.

  NO: Do not show directions.

- **CAMERA TITLE**

  YES: Show camera title.

  NO: Do not show camera title.

- **ZONES**
  YES: Show zones.
  NO: Do not show zones.

- **PRESET TITLE**
  YES: Show preset title.
  NO: Do not show preset title.

- **ZOOM**
  YES: Show zoom multiple when zoom in or zoom out.
  NO: Do not show zoom multiple.

- **FAN**
  YES: Show fan indication when fan is enabled.
  NO: Do not show fan indication.

- **MOTION**
  YES: Show motion message when a motion occurs.
  NO: Do not show motion message when a motion occurs.

- **CAMERA STATUS**
  YES: Shows camera status.
  NO: Do not show camera status.

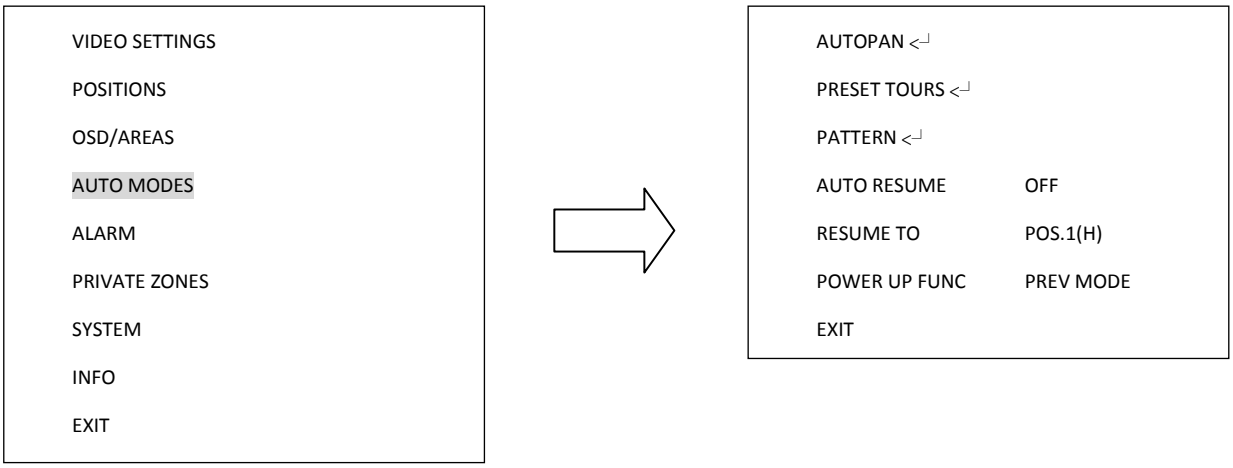
- **RETURN**
  Turn joystick Left/Right to return to previous menu.

EXIT

Select Exit to save settings and exit from current page.

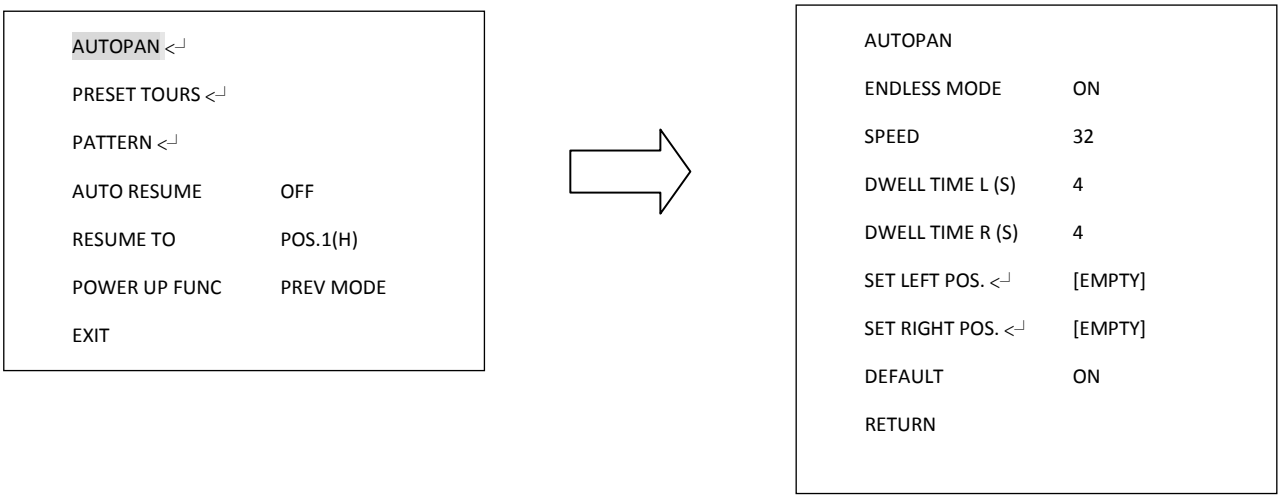
4.4 Auto Modes

In main menu, turn joystick Up/Down to select AUTO MODES. Turn joystick Left/Right to enter AUTO MODES sub-menu.



AUTOPAN

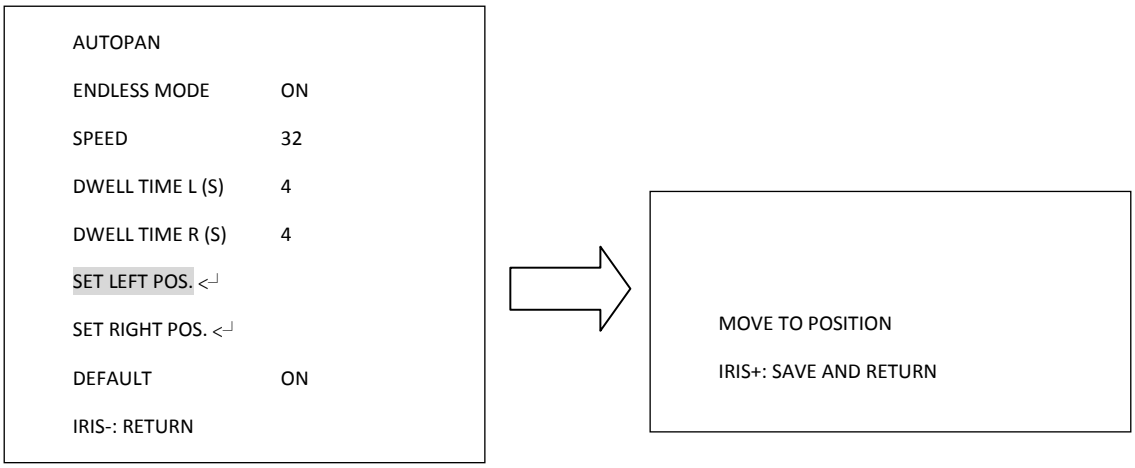
Press Enter key of keyboard or turn joystick Left/Right to enter AUTOPAN sub-menu.



- **ENDLESS MODE**
  ON: Enable endless mode. The speed dome will perform 360 degree endless auto-pan.
  OFF: Disable endless mode. The speed dome will perform auto-pan between position left and position right.
- **SPEED**
  Select speed from 1~255 and 255 is the highest speed.
- **DWELL TIME L (S)**
  Select dwell time of the left position from 1~99 seconds.
- **DWELL TIME R (S)**
  Select dwell time of the right position from 1~99 seconds.

- **SET LEFT POS.**

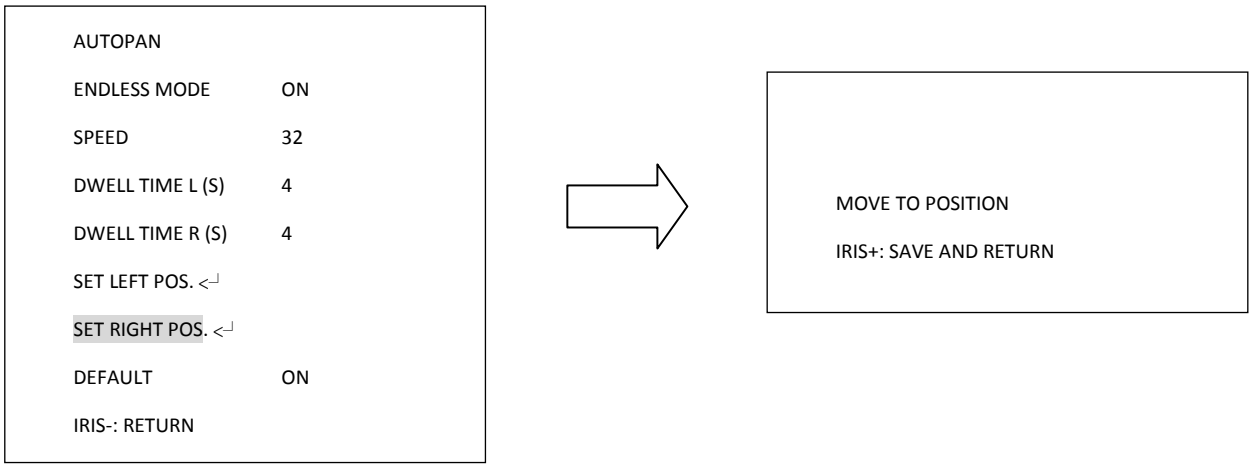
  Press Enter key or turn the joystick Left/Right to enter SET LEFT POS. menu. Turn the joystick to the position where you wish to set Left position. Press IRIS+ key of keyboard to save setting and return to previous menu.



- **SET RIGHT POS.**

  Press Enter key or turn the joystick Left/Right to enter SET RIGHT POS. menu. Turn the joystick to the position where you wish to set RIGHT position. Press IRIS+ key of keyboard to save setting and return to previous menu.

  Note: When Left/Right Position are set, the speed dome will patrol between each position.



- **DEFAULT**

  ON: All settings in AUTOPAN menu will be returned to default values.

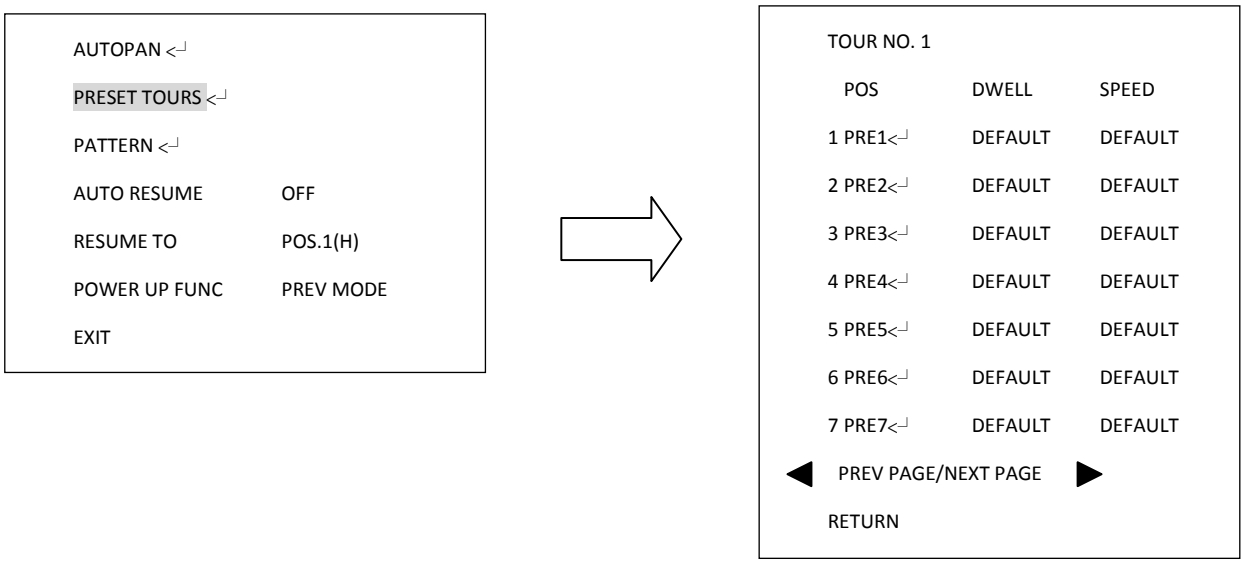
  OFF: The setting in AUTOPAN menu is not default value.

- **RETURN**

  Turn joystick Left/Right to return to previous menu.

PRESET TOURS

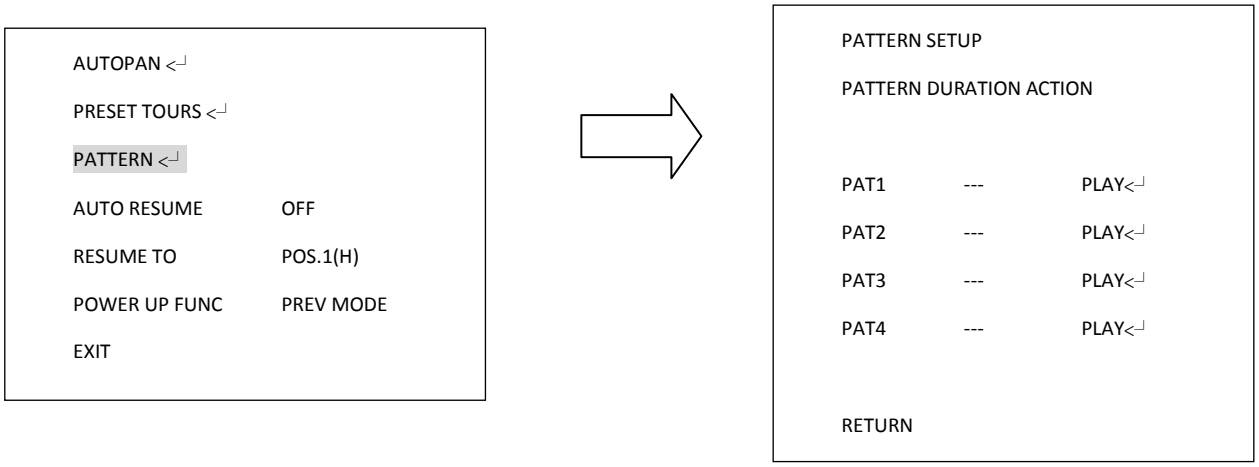
Press Enter key or turn the joystick Left/Right to enter PRESET TOURS sub-menu.



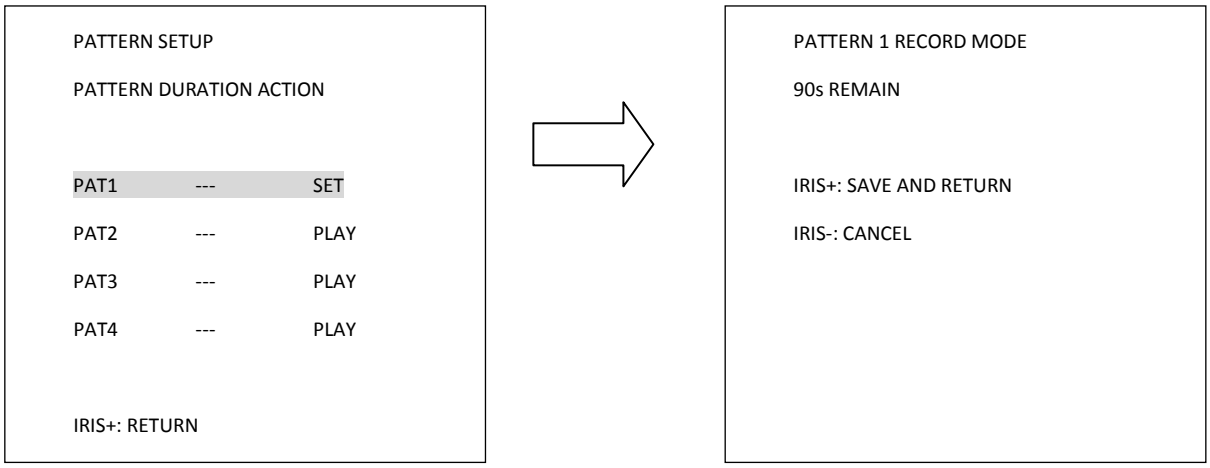
1. Tour NO.: Turn the joystick Left/Right to select tour number first.
2. POS: Turn the joystick Left/Right to select preset position. Press Enter key of keyboard to go next setting. Max. 16 positions can be set for a tour.
3. DWELL: Turn the joystick Up/Down to set dwell time of the tour from 1~99 sec or default.
4. SPEED: Turn the joystick Right after setting dwell time. Turn the joystick Up or Down to select tour speed from 1 ~255 or default. Press Enter key when you finish Tour setting of preset position.
5. PREV PAGE/NEXT PAGE: Turn the joystick Left to go previous page or turn joystick Right to go next page.
6. RETURN: Turn joystick Left/Right to return to previous menu.

PATTERN

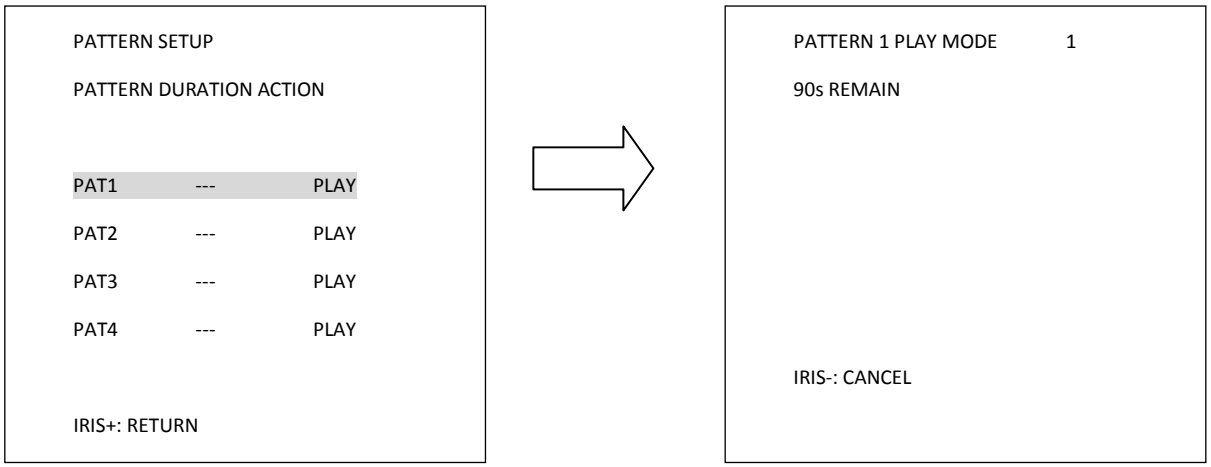
Press Enter key of keyboard to enter PATTERN sub-menu. Note that the Pattern function can only be set up using EverFocus' EKB500 keyboard. You can then operate the Pattern function through the DVR or EKB500 Keyboard.



1. Turn the joystick Up or Down to select pattern number.
2. Turn the joystick Left or Right to select action mode, either **PLAY, SET** or **CLEAR**.
3. Select **SET** and press Enter key of keyboard.



4. Turn the joystick to record the tour you wish to set. Press IRIS+ when you finish setting pattern tour. Press IRIS- if you wish to cancel this action. At duration column of PATTERN SETUP menu, you will see the duration time of pattern you set.
5. When you return to PATTERN SETUP menu, turn the joystick Left/Right to **PLAY**. Press Enter key of keyboard. The camera starts to run the pattern tour you set. The camera keeps playing the pattern until you press IRIS- to cancel playing and it will return to PATTERN SETUP menu.

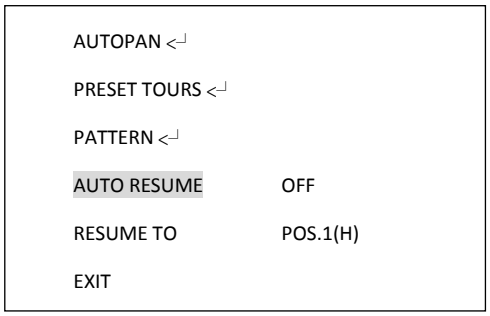


6. RETURN: Turn joystick Left/Right to return to previous menu.

AUTO RESUME

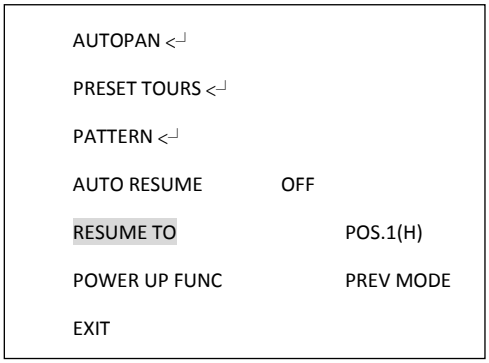
Return to previous mode, if no action for a period.

Turn the joystick Left/Right to set AUTO RESUME. Auto Resume is selectable from OFF, After 30 sec, After 1 min, after 5 min, After 10 min, After 30 min and After 60 min. After this period of time, speed dome will resume to the mode you set in “RESUME TO”. By selecting OFF, this function will be disabled.



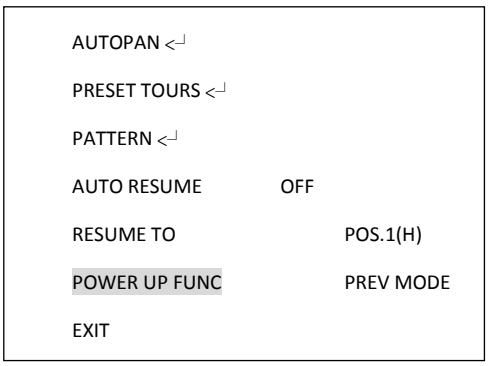
RESUME TO

Turn the joystick Left/Right to select the mode to resume to. It is selectable from PREV MODE, POS.1 (H), TOUR1, PAT.1 and AUTOPAN.



POWER UP FUNC

Turn the joystick Left or Right to select the mode to return to when power failure occurs. It is selectable from PREV MODE, POS.1 (H), TOUR1, PAT.1, AUTOPAN and OFF.

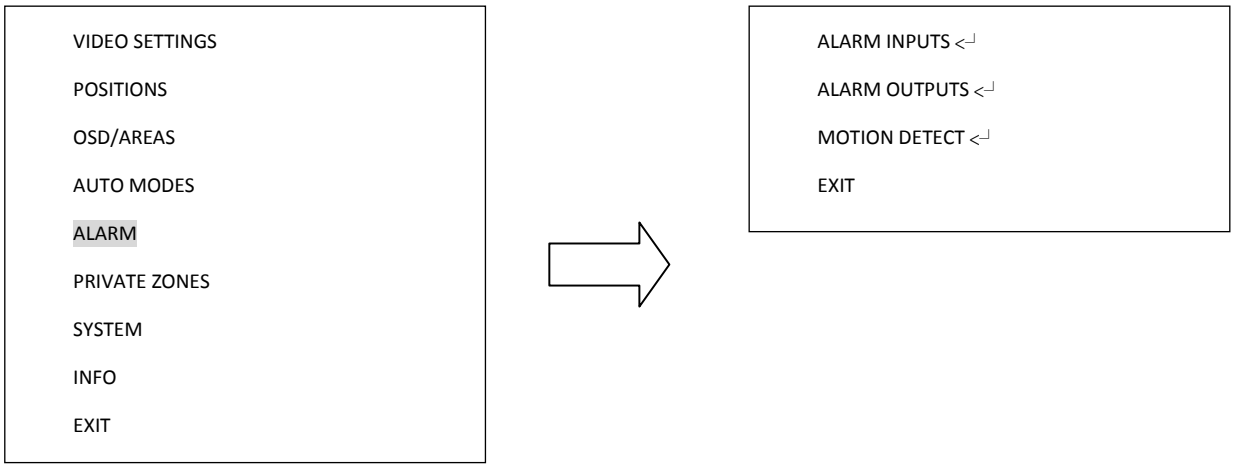


EXIT

Exit from the current menu.

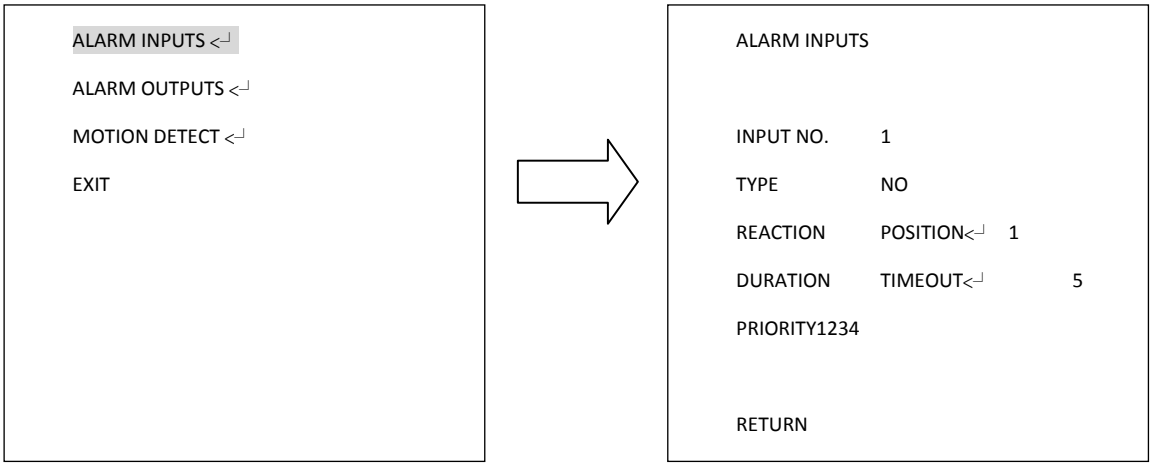
4.5 Alarm

In main menu, turn joystick Up or Down to select ALARM. Turn joystick Left or Right to enter ALARM sub-menu.



ALARM INPUTS

Press Enter key of keyboard to enter ALARM INPUTS sub-menu.

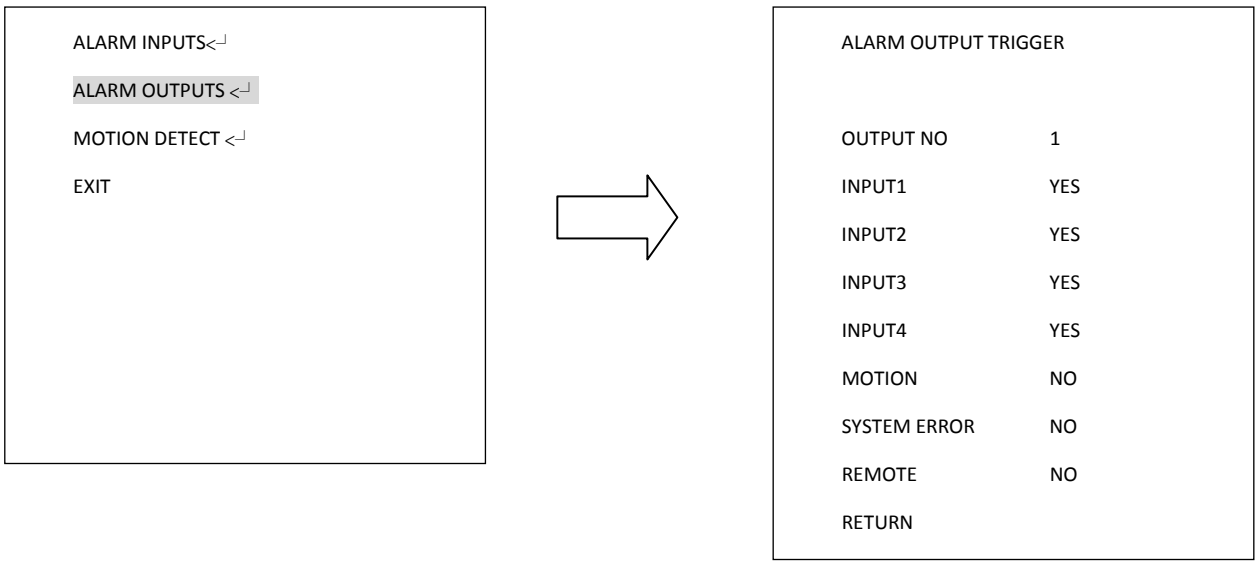


1. Go to INPUT NO. selection and turn the joystick Left/Right to select alarm input number from 1 ~4.
2. Type: Select Normal Close (NC), Normal Open (NO), NIGHT NC, NIGHT NO, or OFF for alarm type.
   NC: Enable a normal close alarm input.
   NO: Enable a normal open alarm input.
   NIGHT NC: Set camera at night mode with normal close alarm input. When there is event triggered, the camera will be changed to day mode.
   NIGHT NO: Set camera at night mode with normal open alarm input. When there is event triggered, the camera will be changed to day mode.
   OFF: Disable alarm input.

3. REACTION: The action will be taken when alarm is triggered.
   OFF: No reaction will be taken when alarm is triggered.
   POSITION: When the alarm is triggered, speed dome will go to the preset position. Turn the joystick Left or Right to select on Position and press Enter key to select position number. Turn joystick Left/Right to make selection. It is selectable from 1~192. Press Enter key again to confirm selection.
   PATTERN: When the alarm is triggered, speed dome will run the pattern. Turn the joystick Left/Right to select on Pattern and press Enter key to select pattern number. Turn joystick Left/Right to make selection. It is selectable from1~4. Press Enter key again to confirm selection.
   TOUR: When the alarm is triggered, speed dome will run the tour. Turn the joystick Left or Right to select on Tour and press Enter key to select tour number. Turn joystick Left or Right to make selection. It is selectable from1~16. Press Enter key again to confirm selection.
4. DURATION: Duration of alarm input.
   TIMEOUT: Turn the joystick Left or Right to select on TIMEOUT and press Enter key to select time-out. Time-out is selectable from 1~99. Press Enter key again to confirm selection.
   LATCHED: Turn the joystick Left or Right to select on LATCHED. The alarm output will not stop until there is any operation on keyboard.
   TRANSPARENT: Turn the joystick Left or Right to select on TRANSPARENT. The alarm output will not stop until the alarm is stopped.
5. PRIORITY: Turn the joystick Left or Right to select alarm input priority, it is selectable from 1234/2341/3412/4123.
6. RETURN: Turn joystick Left/Right to return to previous menu.

ALARM OUTPUTS

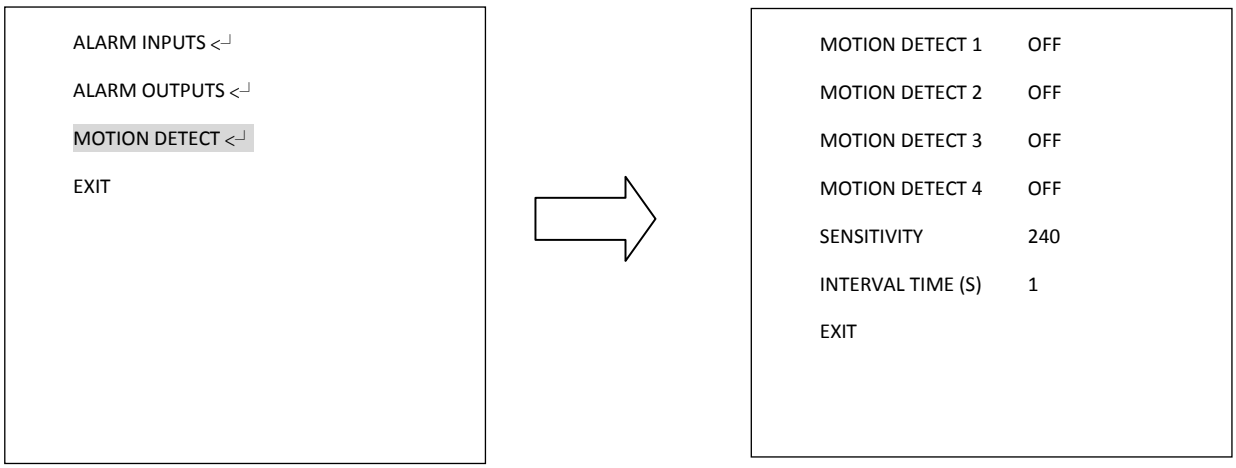
Press Enter key of keyboard to enter ALARM OUTPUTS sub-menu.



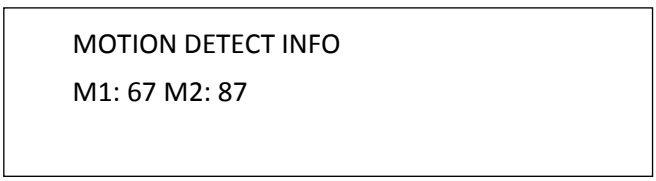
1. OUTPUT NUM: Select Output number from 1~2.
2. INPUT1: Select YES to enable Alarm input 1 for the alarm output selected. Select NO to disable Alarm input 1.
3. INPUT2: Select YES to enable Alarm input 2 for the alarm output selected. Select NO to disable Alarm input 2.
4. INPUT3: Select YES to enable Alarm input 3 for the alarm output selected. Select NO to disable Alarm input 3.
5. INPUT4: Select YES to enable Alarm input 4 for the alarm output selected. Select NO to disable Alarm input 4.
6. MOTION: Select YES to have alarm output triggered when a motion event is detected. Select NO to disable this function.
7. SYSTEM ERROR: Select YES to have alarm output triggered when system error occurs. Select NO to disable this function.
8. REMOTE: Select YES to have alarm output triggered when RS485 failure occurs. Select NO to disable this function.
9. RETURN: RETURN to the previous menu.

MOTION DETECT

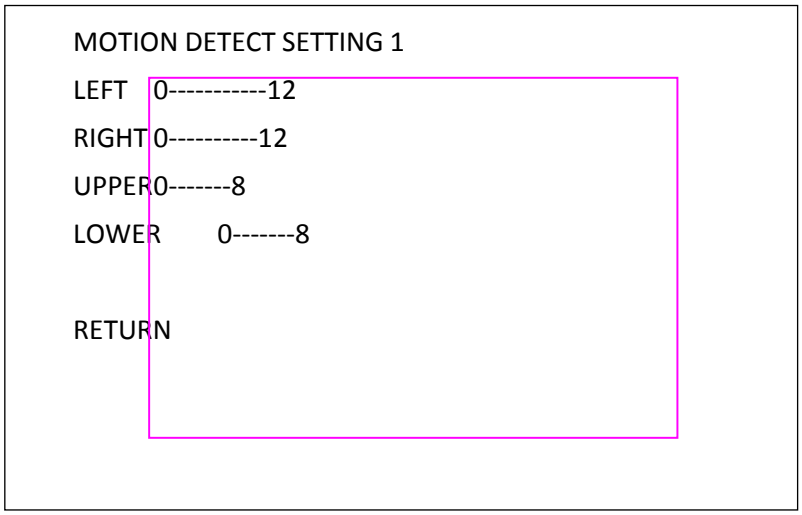
Press Enter key of keyboard to enter MOTION DETECT sub-menu. You can set 4 motion areas.



1. Turn the joystick Left or Right to select ON for motion detection. A window as below pops up.



2. Press Enter key to enter Motion Detection Setting. Use the joystick to select motion area. Turn the joystick Up or Down to select directions, LEFT, RIGHT, UPPER or LOWER. Turn the joystick Left or Right to adjust the value of motion area. For Left & Right directions, it is selectable from 0 to 12. For Upper & Lower directions, it is selectable from 0 to 8. There is a color frame showing you the motion detection area you change. Motion 1 is represented by pink, Motion 2 by blue, Motion 3 by green and Motion 4 by yellow. Press IRIS+ key to save setting and return to previous menu. Press IRIS- to return to previous menu.



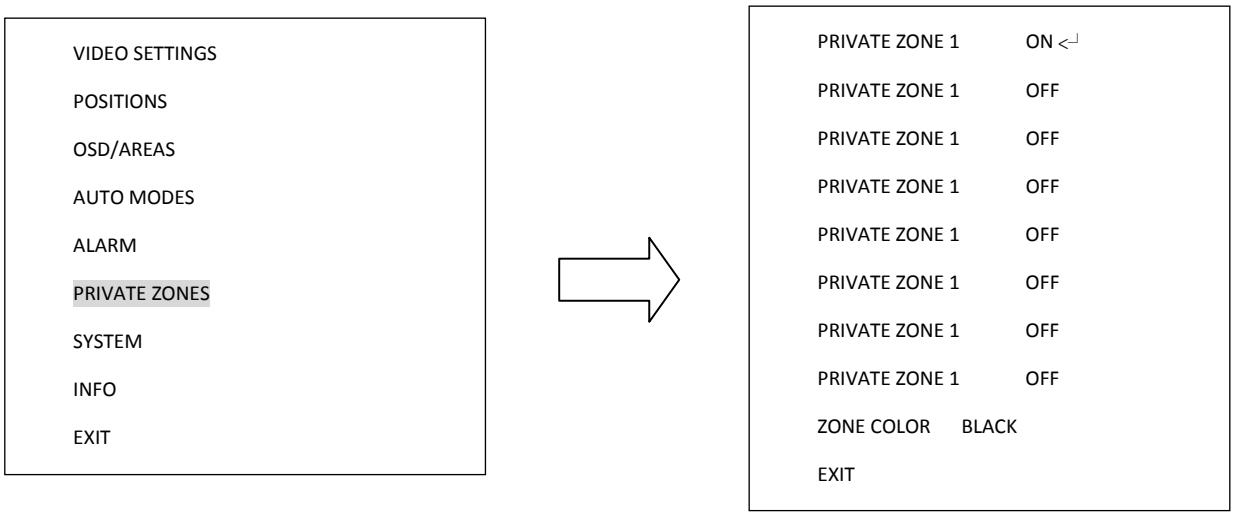
3. SENSITIVITY: select motion detection sensitivity level from 1~255.
4. INTERVAL TIME (S): select interval time in seconds from 1~255. Speed dome will stop detecting motion during this interval time.

EXIT

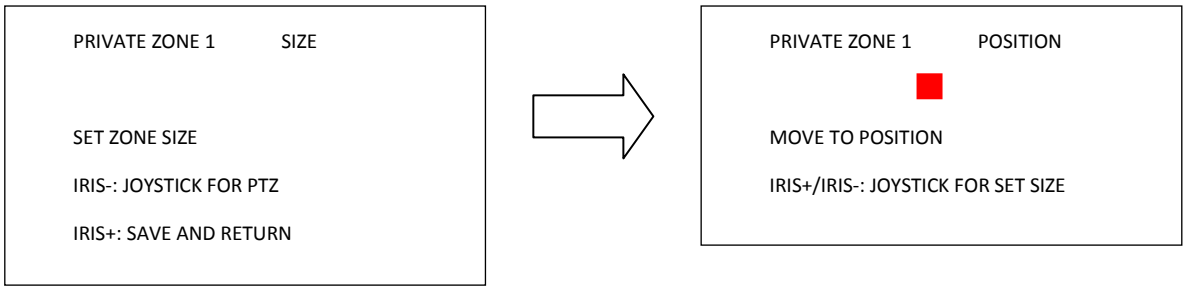
Exit from the current menu.

4.6 Private Zones (Optional)

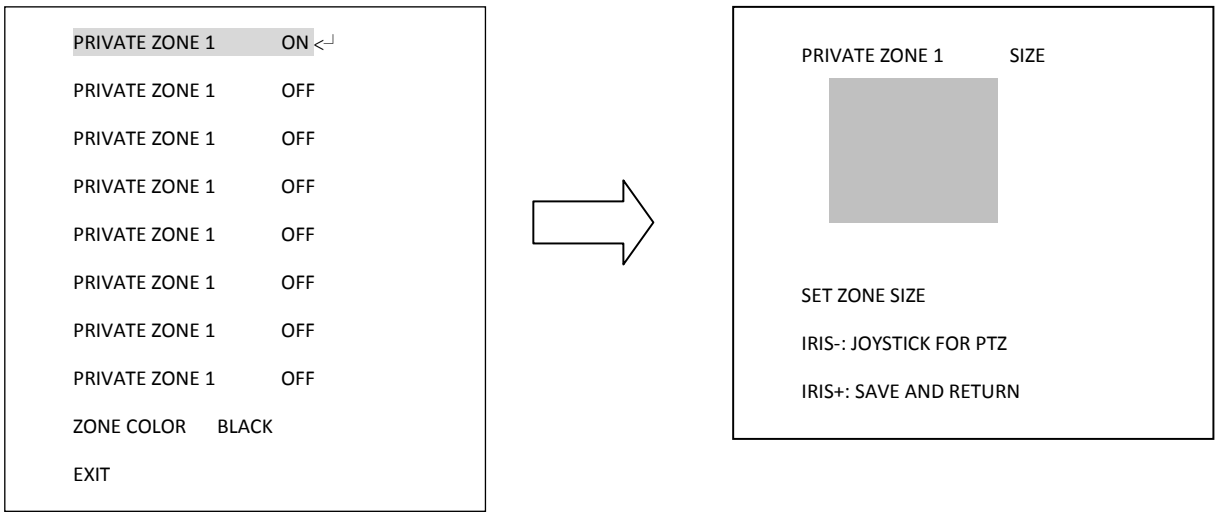
In main menu, turn joystick Up/Down to select PRIVATE ZONES masking. Turn joystick Left/Right to enter PRIVATE ZONE sub-menu.



1. ON: Turn joystick Left/Right to select ON/OFF. For private zone ON, press Enter key to enter private zone position.
2. Turn the joystick and move to position of private zone. Press IRIS+ or IRIS- key to set private zone size.



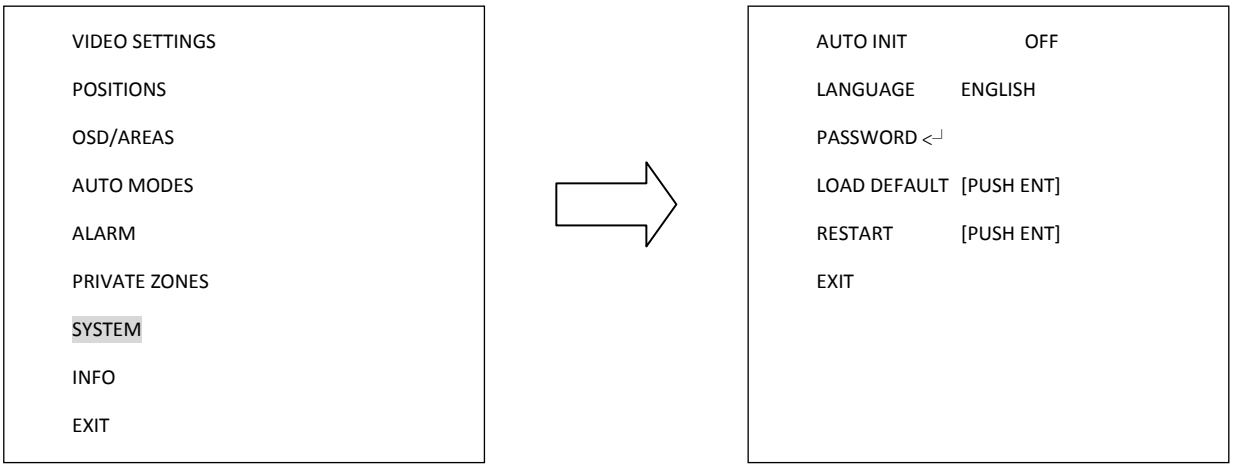
3. Select the area to be covered first. Turn joystick Left/Right to adjust width of the private zone area. Turn joystick Up or Down to adjust height of the private zone area. Press IRIS- key to set private zone position. Press IRIS+ to save and return to previous menu.



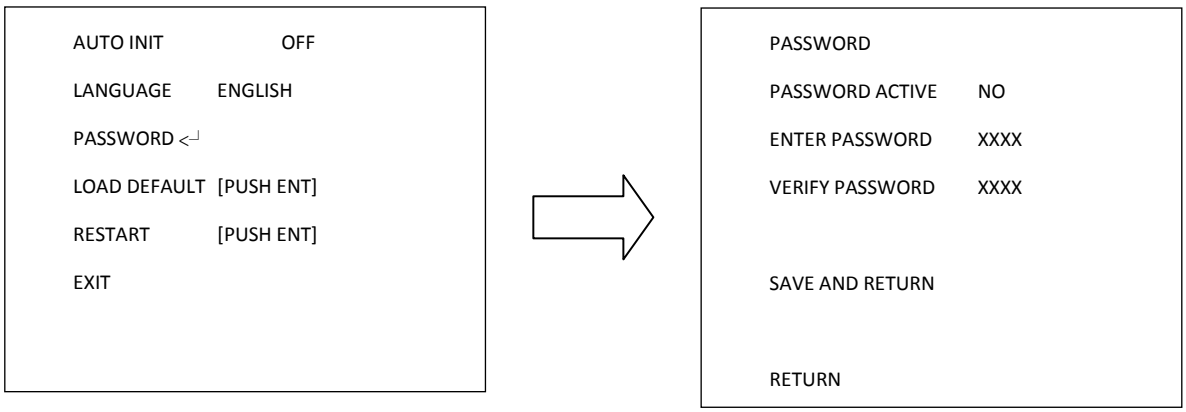
4. Zone color: select private zone area color.
5. Exit: exit from current menu.

4.7 System

In main menu, turn joystick Up/Down to select SYSTEM. Turn joystick Left/Right to enter SYSTEM sub-menu.



1. AUTO INIT: Select auto initiation time from OFF, DAILY, WEEKLY. Speed dome will automatically initiate and return to the previous position by maintaining all the settings you have done.
2. LANGUAGE: Select language. The current version only supports English version.
3. PASSWORD: Press Enter key or turn joystick Left/Right to enter password sub-menu.

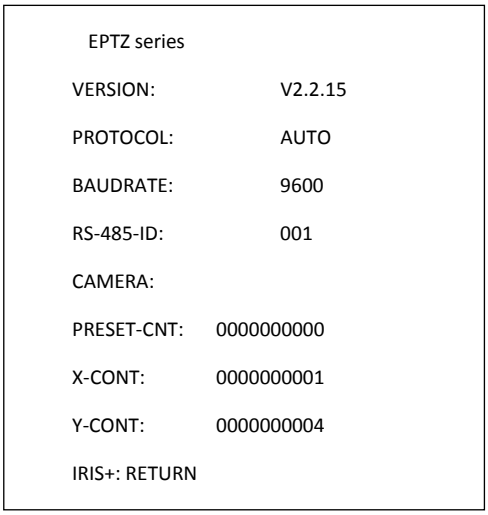


-PASSWORD ACTIVE: Select YES to activate password mode. Select NO to disable password mode.
-ENTER PASSWORD: Enter the password.
-VERIFY PASSWORD: Enter the password again to confirm your input.
Press IRIS+ key to save and return to previous menu. Press IRIS- key to cancel.
-SAVE AND RETURN: Turn joystick Left/Right to save the changes and return to previous menu.
-RETURN: Turn joystick Left/Right to return to previous menu without saving changes.

4. LOAD DEFAULT: Press Enter key to load default values, all values will return to factory default value.
5. Restart: Press Enter key to restart the speed dome.
6. EXIT: Exit from current menu.

4.8 Info

In main menu, turn joystick Up or Down to select INFO. Turn joystick Left or Right to enter INFO sub-menu.



1. VERSION: shows firmware version of this speed dome.
2. PROTOCOL: shows protocol of this speed dome.
3. BAUDRATE: shows baud rate of this speed dome.
4. RS-485-ID: shows RS-485 ID of this speed dome.
5. PRESET-CNT: Preset counter. This counter counts the preset movement, and 1 is counted when the speed dome runs to preset position.
6. X-CONT: X-axis counter. This counter counts the x axis movement, and 1 is counted when the speed dome pans 360°.
7. Y-CONT: Y-axis counter. This counter counts the y axis movement, and 1 is counted when the speed dome tilts 180°.
8. Press IRIS+ key to return to previous menu.

4.9 Exit

Exit from the current menu.

5. Specifications

Product Model	EPTZ3602 (outdoor)	EPTZ3602i (indoor)
Pickup Device	1/4" Sony 960H Super HAD CCD II	
Video Format	NTSC/PAL	
Scanning System	1020 x 508 (NTSC); 1020 x 596 (PAL)	
Horizontal Resolution	700 TVL	
Min. Illumination	Normal: 0.1 Lux/F1.6; Night Mode: 0.05 Lux/F1.6 (ICR ON)	
S/N Ratio (AGC OFF)	over 55dB	
Electronic Shutter	256x~ 1/60(1/50) ~ 1/120,000(s) (NTSC)	
Digital Slow Shutter	256x	
Shutter Selection	AUTO; A.FLK; Manual 256x~1/60 (1/50)~1/120,000 selectable	
Lens Type	36x optical zoom, f=3.4 mm (wide) to 122.4mm (tele), F1.6 to F4.5	
Zoom Ratio	576x max (36x Optical and 16x Digital zoom)	
True Day & Night	Yes, (Auto/Day/Night)	
Auto Gain Control	Yes, (OFF/Low/Mid/High)	
Backlight Comp.	Yes, (OFF/Low/Mid/High)	
Dynamic Noise Reduction	Yes,(OFF/Low/Mid/High)	
White Balance	Indoor/Outdoor/ATW/AWB	
Wide Dynamic Range	Yes, (OFF/ON)	
Motion Detection	Yes, (OFF/ON)	
Privacy Zone Masking	Yes, (4-zone)	
Video Output	1Vp-p, 75Ω	
Sync. Mode	Internal	
Focus Control	One Push/Auto/Manual	
Horizontal Rotation Speed	0.01°/s-360°/s (1-255 grade shift gears)	
Manual Pan/Tilt Speed	Pan: 0.01°~180°/s; Tilt: 0.01°~180°/s	
Position Accuracy	±0.1°	
Horizontal Rotation Range	360° unlimited rotation	
Tilt Rotation Range	90° pendulum motion	
Auto Speed Control	Control speed auto-adjusted according to zoom length changing	
Auto Pan, 2 Points Scanning	Can set freely	
Auto Pan Speed	1-255 grade available, 0.01º/s – 360º/s	
Dwell Time (2 points)	1-99 second available	
Preset Positions	192 positions	
Running to Position Speed	1-255 grade available, 0.01º/s - 360º/s	
Dwell Time at Preset	1-99 second available	
Tour	16 groups	
Tour Point per Group	16 preset positions	

Pattern	4 patterns with 90 sec long each
Alarm	4 in 2 out with tour/position auto triggering
Fan	Auto starts
Built-in Menu for Functions	Yes
Communication	RS-485
Communication Speed	1200/2400/4800/9600bps
Built-in Protocols	AUTO; EVF; Pelco-P; Pelco-D/Plus-D; A-Type; Panasonic
Address Editable	Yes (through DIP switch)
Speed Dome ID Address	0-255
Power Source	24 VAC
Power Consumption	30W Max.
Weather-Resistant	IP66-rated (only for EPTZ3602)
Operating Temperature	-40°C~50°C ≤ 95% / -40°F~122°F ≤ 95%(EPTZ3602) -10°C~50°C ≤ 85% / 14°F~122°F ≤ 85%(EPTZ3602i)
Dimensions (W x H)	180 x 280mm/7.1" x 11" (EPTZ3602) 159 x 230mm/6.3" x 9.1" (EPTZ3602i)
Weight	3.0kg / 6.62lbs
Certificates	CE, FCC

Appendix

A. Setting-up and Operating EPTZ Camera Function Using EKB500

Manual Control Mode

- **Manual control:** Shift Joystick Up/Down/Left/Right, and turn it Clockwise/Counterclockwise to control speed dome.
  Use the control keys which are Zoom, Focus and IRIS function keys on the keyboard to Zoom In/Out, focus N (near)/F (Far), or IRIS +/-.
  Note: Zoom In/Out control keys will be disabled when entering to OSD menu mode.
- **HOME Mode:** The camera view will go back to the home position when there is no keyboard operation in a specific time. The home position and the specific time can be set by pressing Set + Home.
  If you set the time to 0 minute, then the camera will go back to home if there is no keyboard operation in 5 seconds. This is the minimum no action time for HOME mode.
  Note: If "HOME" function is enabled, dome will go to home immediately after powering on.

Auto Pan Mode

- **Two point auto pan**: Press A.Pan to enter the auto pan mode, and then the system will ask you to enter the auto pan speed (1~239). Press Enter to start auto pan.
  In order to set the two points, press Set + A.Pan, and then enter the dwell time (1~127 seconds) of each point. The EPTZ camera begins to pan from point A to point B clockwise.
- **360° auto pan:** Press Shift + A.Pan to enter the 360° auto pan. System will ask you to enter 360° auto pan speed (1~239). The camera will turn 360° automatically, but not tilt.

Position Setting

- **Focus on a preset position:** Press the number key, and then press Position to focus on the number of preset position; or you can press Position, then enter the preset position number, and then press Enter to focus on the number of preset position.

- **Preset a position:** Shift the Joystick to the position you would like to preset, and then press Shift + Position. The system will ask you to enter the preset position number (1~192), and then press Enter to save the position. There are up to 192 positions can be preset.

  Three specific preset positions can be set as follows:
  92 => Set Left Limit Stop (A position)
  93 => Set Right Limit Stop (B position)
  95 => Enter Menu mode (Use keyboard control keys to control OSD items; Focus F. to go downward, Focus N. to go upward. IRIS + go to previous setting and IRIS – to exit).

You can directly go to the following specific preset positions:
33 => Rotation of 180 degree
34 => Go to Home position (if Home Position is set by EVF Keyboard)
90 => Run tour (one-way)
91 => Run Pattern
94 => Initial
96 => Stop Scan
97 => Start running tour 1
98 => Frame scan (60 degree / step)
Default speed is 32. It can be changed by EVF Keyboard (Shift + A.Pan setting speed.
Dwell time: default is 2 sec; It can be changed by EVF Keyboard Set + A.Pan setting dwell time of A pos or B pos.
99 => Auto scan (360 degree)
Default speed is 32. It can be changed by EVF Keyboard (Shift + A.Pan setting speed).

We can even set camera's ICR Day/Night function with RS-485 command via keyboard. How to do this? Press Position + **88** to link to Day mode or Position + **89** to link to Night mode, "ICR AUTO" message will be shown on the right-bottom part of the screen. If OSD Day/Night ICR mode is "AUTO", it cannot be controlled by preset position setting.

- **Set the parameter of a preset position:** Press Set + Position to set the parameter of a preset position. You can set the going-to speed (1~239), dwell time (1~239 seconds), and the title of the position. Shift the joystick Right/Left to change bits, and shift the Joystick Up/Down to change the alphanumeric characteristic. The available alphanumeric characteristics are 0~9, A~Z, &, ?, !, :, ', ., ,, /, -, and a space.
- **Delete a preset position:** Press Clr + Position to delete a preset position. The system will ask you to enter the position number that you would like to delete, and then press Enter.

Tour Mode

In the tour mode, you can set a tour for viewing. There are 16 tours can be set, and 16 preset positions in a tour.

- **One-way tour Mode:** Press Tour to enter the tour mode. The system will ask you to enter the tour number you would like to run, and starts the tour after pressing Enter. To preset a tour before running is necessary.
  Preset a one-way tour: Press Set + Tour to preset a one-way tour. The system will ask you to enter preset position numbers (The positions need to be preset). After finish entering all positions, press Stop to quit, and then press Enter to save the tour.
- **To-and-fro tour mode:** Press Shift + Tour to run a to-and-fro tour. The system will ask you to enter the tour number you would like to run, and starts the tour after pressing Enter. To preset a tour before running it is necessary.

Note 1: The difference between the One-way tour mode and To-and-fro tour mode is that the return modes are different. For example: There is a tour with 3 preset positions 1, 2 and 3. The camera runs 1→2→3→1→2→3 in the One-way tour mode, and 1→2→3→2→1 in the To-and-fro tour mode.
Note 2: You could set a pattern tour. Press Set + Tour, and input 0, press Enter. Sway the joystick to record the entire tour. Press Stop to stop recording tour. To view this pattern tour, simply press Tour, and input tour number 0.

Alarm Link to a Position/Tour

EPTZ3602/EPTZ3602i have 4 alarm inputs that can be set to link to a position or a tour when an alarm is triggered.

- **Set an alarm link:**
  Press **F1** to set an alarm link. Enter the alarm number, and then press **Enter**. Switch the Joystick up/down to select a position or a tour, enter a position or tour number, and then press **Enter** to confirm the alarm link setting.
  If you set the position number to 99, the dome will do a 360 degree auto scan or AB two point pan if limit is ON. If you set the position number to 98, the dome will do a frame scan.
- **Delete an alarm link:**
  Press **Clr** + **F1** to delete a link of alarm to position/tour.
  Note 1: After alarm output signal is terminated, the speed dome will resume action or return to its original position.
  Note 2: After powering on the speed dome, it will detect alarm status automatically.

Other Operations

The 3602/EPTZ3602i can work with a DVR that has PTZ control functions, and a matching protocol. The available control functions depend on different DVRs.
The 3602/EPTZ3602i can work with a keyboard that has PTZ control functions, and a matching protocol. The available control functions depend on different keyboards.

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